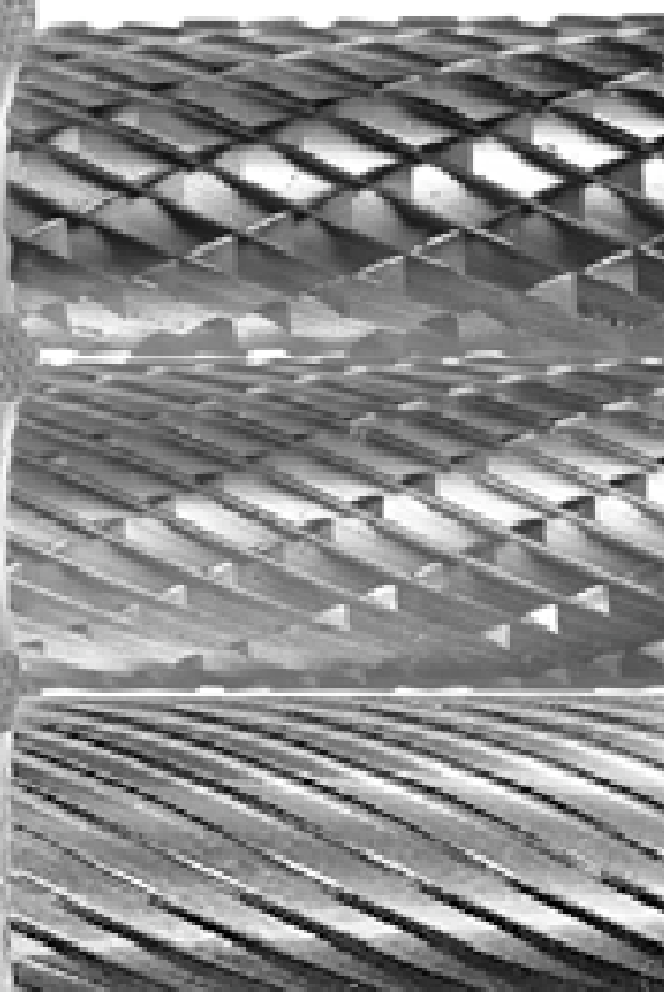


GROBET USA®

The World Leader of Precision Files and Cutting Tools

- **American Pattern Files**
- **Swiss Precision Files**
- **Carbide Rotary Files**
- **High Speed Steel Rotary Files**

ISO Certification





Growing to serve you better!

Our 40,000 square-foot state-of-the-art production plant in Cheyenne, WY is allowing us to meet the increased demand for our products and will accommodate the further expansion of our product design & manufacturing capabilities.

Welcome to the **GROBET USA**® File Catalog.

We have a proud heritage of over 139 years in the design, production and distribution of precision tools for professional technicians and craftsmen.

GROBET USA® maintains state-of-the-art production facilities in the US and Switzerland, as well as a global network of suppliers to provide an offering of more than 18,000 products used by:

- Manufacturers
- Machinists / Metal Workers
- Jewelers
- Lapidaries
- Dental Laboratory Technicians
- Hobbyists & Model Makers

GROBET USA® products are available worldwide through our international network of authorized distributors.

GROBET USA®

Table of Contents



Hints on using swiss hand files

Hand filing, as one of man's oldest ways of working metal, requires a high degree of manual skill. In a sense, filing is an art that can be learned only by long and patient practice. In fact, it takes longer to teach a person to do a filing job than it does to run a lathe, miller or planer and do a good job. It has been said that a pioneer automobile manufacturer, as a test for job-hunting toolmakers, gave each applicant a few files and a piece of steel and set him to work filing a perfect cube. While there may be no truth in the story, it does point up to the fact that hand filing is an important industrial skill from the die shop to the production line.



Correct method of holding a file for working thin stock. Several teeth should always contact work.



For draw filing, the file is held as shown and alternately pulled and pushed over the work.

Today, a craftsman is recognized by his ability to use a file correctly and efficiently. The touch of a file in the proper place can make all the difference in the world in fitting a critical joint. The skill or "feel" that the person with a file acquires from long experience comes from conforming to the correct procedures.

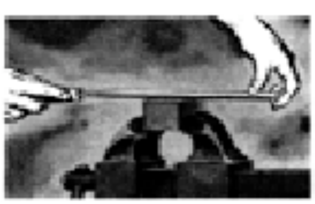
First of all, they must select the right file for the job. This is done according to the type of metal to be filed, the amount of material to be removed and the size and contour the piece to be worked. Once the selection of the proper files has been made, the following basic principles should be observed:

The work piece must be properly supported at the correct working height.

The file must be held correctly with the cutting stroke properly guided.

The proper pressure must be applied during the cutting stroke.

The file must be clean.



For normal filing, the hands are placed on the file as illustrated for maximum pressure and average stock removal.



Heavy stock removal requires a change in the position of the left hand, as shown.

One of the prime causes of defective filing is the tendency of the novice to rock the file with a seesaw motion. This produces a convex rather than a flat, level surface. The reason for this is the attempt to remove too much material with each stoke. A lighter, more even pressure on the file usually corrects this.

Most material to be filed is generally held in a bench vise or work fixture. When used, it is placed so the top of the work piece is usually level with the worker's elbow when the arm is bent.

This practice is followed when average precision filing is to be done. When rapid removal of material or rough, heavy filing is to be done, the work is usually set at a lower level and a coarser cut file used. However, when the work is small and delicate and the filing is done by the motion of the hand or the hand and arm alone, the work is held at a level that permits closer scrutiny and enables a fine cut file or riffler to be guided more accurately. To keep the work piece from being marred, the jaws of the vise should be covered with pieces of soft metal, wood, plastic or leather.

In general there are four basic types of filing operations, straight filing, draw-filing, lathe filing and fine precision filing. As lathe filing is an application for American pattern or long angle lathe files, it will not be discussed here. In straight filing, the file is pushed straight across the work while in draw filing the file is held at each end and under even pressure it is guided back and forth over the work in much the same manner as a spokeshave is used on wood. During this operation, the file is held perpendicular to the direct of motion. A word of caution, do not use a file that does not have a handle in place over the tang to protect the hand from possible injury.

From straight and draw-filing, the operator should stand comfortably with feet well apart so as to obtain a free swing from the shoulders, avoiding any separate wrist or elbow movement. The illustrations on these pages will show the proper hand positions for straight and draw-filing. The finishing and smoothing of metal in various narrow grooves and depressions of tools, dies, molds, jigs and fixtures calls for precision filing at its best. Small rifflers, used here, are held in much the same manner as a pen or pencil. In using larger sizes, the riffler is held in the hand with the index finger on the safe side to exert the proper cutting pressure. When necessary, on very fine and delicate work, the left hand is used to control the direction and in some cases the stroke of the riffler. With the large range of shapes, sizes and cuts now available in Grobet-Swiss precision files and rifflers, logic and experience will suggest the contour and profile most suited for the job.



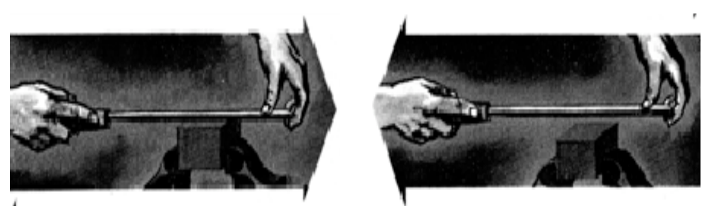
For precision filing the tip is held by the thumb and index finger of the left hand for maximum control.



For flat filing the thumb and fingers of the left hand are stretched far apart for an even pressure.

In filing, "feel" is an important part of the operation. Too much or too little pressure can cause damage to the teeth of a Swiss precision file. Only enough pressure should be applied on a file during its forward motion to keep it cutting throughout its entire stroke. "Feel" will vary with the metal being worked and only through constant practice can this be attained.

Too little pressure on the cutting stroke, especially when working with tool and chrome alloy steels, will quickly dull the teeth of the file. Too much pressure will result in excess metal being removed and causing the teeth of



To preserve the sharpness of the teeth and to increase life the file should be raised on the return stroke.

the file to become pinned. Proper cleaning of files with a file card and chalk will help keep the finish of the work smooth and free of scratches. The chalk will also help keep chips from building up in the teeth of the file. Chalk and a wire brush can be used to remove oil or grease from a file.

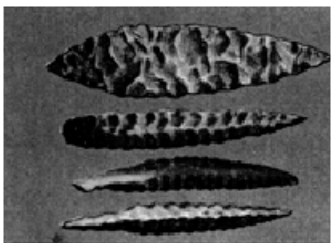
Just as important as proper use in prolonging its life, is the proper care of a file. Files should be kept mounted on a rack or with their tangs placed in a row of holes drilled into a block of wood. Don't just toss them into a drawer or in a pile on the back of a bench. If you do, you will damage their fine, keen-cutting teeth. And, keep your files in a dry atmosphere to avoid the possibility of rust. If a file becomes rusty, the teeth crumble away into a fine dust.

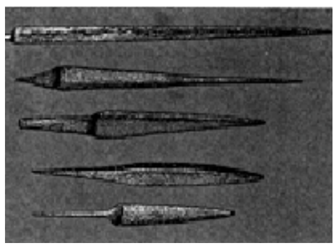
No file should be used without a handle. These handles must be mounted on the tangs properly. Never hammer or pound the point of a file to seat the tang in a handle. After the right size handle is selected, slip it over the tang and gently force the file into the hole as far as possible. Then either tap the handle on the bench or holding the handle, tap it with a mallet until the file is firmly secured.



File-making... one of man's oldest arts

The spade of the archeologists has turned up evidence that some primitive form of file may well have been the very first kind of cutting tool invented by man. It is quite likely that Stone Age man used a crude rasp even before he devised a rudimentary knife and a rough ax. Flint rasps are familiar finds in Stone Age diggings.





The earliest knives and axes probably came into being because man already had a tool with which to sharpen them - his crude file. These essential tools of early man, knives, and axes show the marks of sharpening. Their edges have been abraded with a harder, rough stone - the ancestor of all files.

The oldest known metallic file in existence today was un-earthed by an archeological expedition from the University of Pennsylvania on the Island of Crete in the Mediterranean. This file, which is now on exhibit in the museum at Candia, is believed to be some 3,400 years old. It has a rounded back and is very similar to a modern chisel cut half round file. The file measures approximately 3-1/2" long, 3/8" wide and 7/32" thick.

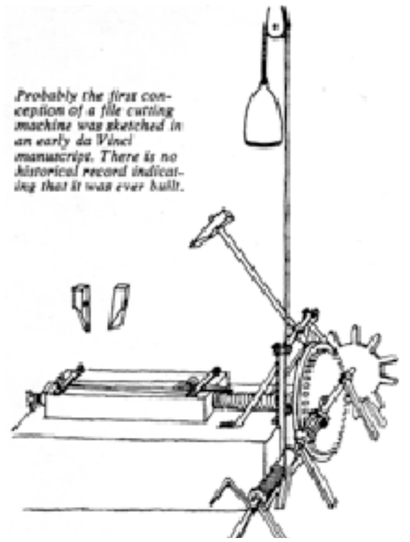
The early Egyptians used files and rasps made of copper and bronze during the period 3200 to 1800 B.C. The University of Pennsylvania has a fine example of one of these files. It came from the Ramesseum that was built during the 13th Century B.C. for the God Ammon by Rameses the 2nd.

The Celts had iron files as early as 666 B.C. and iron files were popular tools among the Romans during the Gallo-Roman period. References to metallic files are found in Latin writings as early as the First Century B.C.

And even at so early a date, these files were probably crossed double-cut - very similar to present day files. It is known that the Romans also used a single-cut file. They even made a distinction between the file used for wood - scobina - and the file used for metal - *lima.* Not all of those files were flat. Examples exist of half-round and of square Roman files, types still in common use. Roman files, however, were usually cut only on one side, were no more than a half-inch wide, and were crude by comparison to later hand-made files from France and eventually Switzerland where the art became highly developed.

The regularity of the cut in a file was early recognized as a mark of excellence of how well the file performed. The hand worker made his file by striking a hammer upon a chisel that was moved at each stroke in exactly the same manner and over exactly the same distance. The continuous and regular repetition of one particular operation in itself first suggested the idea of performing the work mechanically and automatically.

As early as 1490, this idea struck the great sculptor, painter, scientist, and engineer Leonardo da Vinci. In his notebooks he sketched the first file-cutting machine. Just who was the first man to use a machine for cutting files remains a matter of conjecture. It may have been the French master locksmith Mathurin Jousse, who described a file-cutting machine in a book he published in 1627. Other sources say the first machine to actually cut files was made by another Frenchman, Chopitel, also a master locksmith, in 1750. After this date, there are records of a number of file-cutting machines.

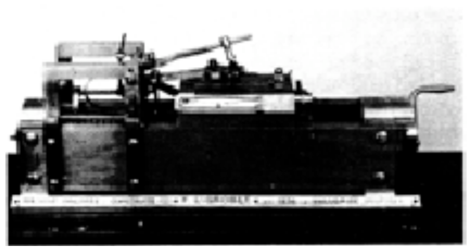


Probably the first conception of a file cutting machine was sketched in an early da Vinci manuscript. There is no historical record indicating that it was ever built.

These early machines produced files that were satisfactory so far as most file-users of that day were concerned. However, most skilled artisans - such as the watchmakers, the silversmiths and the die-makers - continued to cut their own files by hand. Not only did they often require special shapes for their files, but they were precision workmen, craftsman who demanded a finer degree of accuracy in the files they used than those made by these early machines could provide. Furthermore, they wanted each of their files to have an identical cut.

It was not until F.L. Grobet - a toolmaker who founded a company called Grobet Freres in Vallorbe, Switzerland, in 1812 - put the making of Swiss files on a production basis that files attained true precision and uniformity. He designed and built the first precision file-cutting machine in 1836. The types and cuts introduced by Grobet became standards for the industry because each file was uniform with the next, made to a degree of preciseness unknown until then.

Over the centuries, the metals from which files have been made also have undergone improvement. Mild steel replaced the bronze and iron of the first metallic files. Various makers introduced secret processes to carburize the file teeth making them harder than the base metal from which the file was made. Carbon steels, inherently harder than the original mild steels, brought annealing into use. This process softens the steel more for tooth-cutting and tends to produce a more uniform internal structure in the metal. The finished file is then heat treated to harden the cutting surfaces. Today, tool steels are being relaced by chrome steels and other special alloys for files as these precision tools are now called upon to work alloys that are increasingly difficult to machine and shape to ever-closer tolerances.



The original Grobet precision file cutting machine.

It is only natural, as technological improvements were made in industry, that the file makers' art and engineering skill was called upon to keep pace. This was not only with metalurgical advances but also with the demands for new forms of files to meet the needs of improved industry practices. Production line manufacturing called for mechanized filing and brought about the development of filing machines.

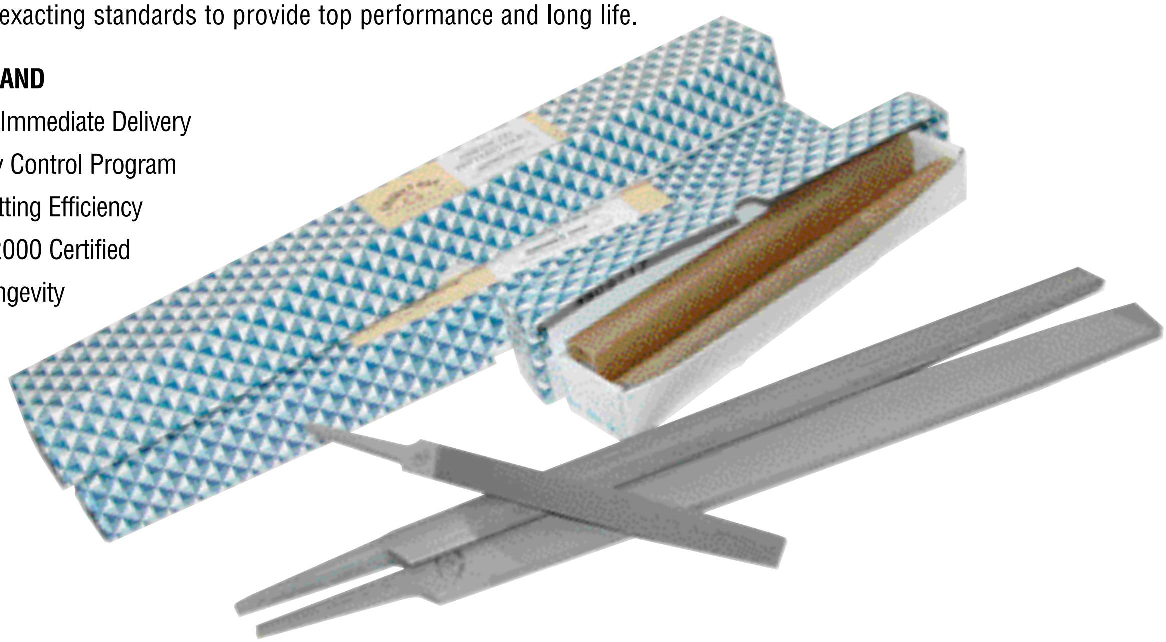
In fact, the ever-closer tolerances demanded in the tooling for automated production and in the complex molds used by the expanding plastics industry require the finest products of the precision file maker's craftsmanship. Yet, outside the toolroom, new die-casting processes in the aerospace, and automotive industries still require precision hand filing in the production line to finish parts with close tolerances.

The art of file-making may be as old as the caveman's crude flint rasp, but it is as modern as the intricate mold for a computer component being precisely finished with a Swiss precision die-maker's riffler.

American Pattern Files

Grobet American Pattern Files are uniform in cut to permit fast metal removal. Extremely durable and scientifically balanced, each file is the product of a long tradition of superior craftsmanship combined with the most advanced technology. Every file is heat-treated to exacting standards to provide top performance and long life.

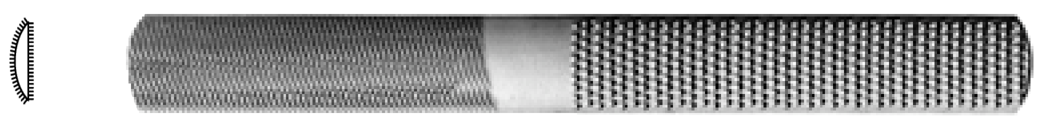
- **GROBET BRAND**
- In Stock for Immediate Delivery
- Strict Quality Control Program
- Excellent Cutting Efficiency
- ISO 9001 : 2000 Certified
- Superior Longevity



COMPARABLE CUT DESIGNATIONS FOR SWISS PRECISION AND AMERICAN PATTERN FILES

SWISS	No. 00	No. 0	No. 2
AMERICAN PATTERN	Bastard	Second Cut	Smooth Cut

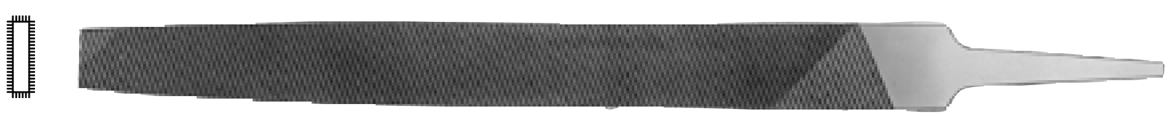
There is no equivalent in American Pattern Files for Swiss cuts numbered from No. 4 to No. 8.



ALL PURPOSE FILE

For the homeowner, home craftsman, boat builder and mechanic. Half-round shape. Has file section and rasp section on both flat side and half-round side. **Both sides of file section are double cut – Both sides of rasp section are rasp cut.**

Length	Width	Thickness	GROBET SWISS Bastard Cut
8"	7/8"	1/4"	**32.502**

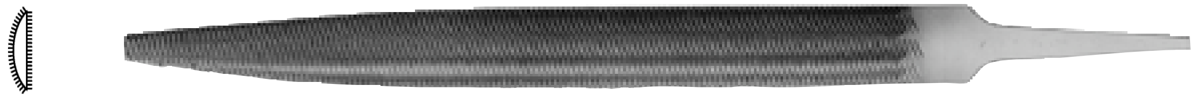


ALUMINUM TYPE A, FLAT

Special tooth construction is effective in eliminating clogging. Developed for use on soft material, such as aluminum. This double cut file tapers in thickness and width. **Double cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut
6"	5/8"	5/32"	**32.260**
8"	25/32"	7/32"	**32.261**
10"	31/32"	1/4"	**32.262**
12"	1-5/32"	9/32"	**32.263**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



ALUMINUM TYPE A, HALF-ROUND

Eliminates chip clogging. Designed for soft materials, such as aluminum. The Half-Round file allows modification of concave surfaces and holes. This tapered file is rounded on one side and flat on the other. **Double cut on both sides.**

Length	Width	GROBET Thickness	Bastard Cut
6"	19/32"	5/32"	**32.265**
8"	3/4"	7/32"	**32.266**
10"	15/16"	9/32"	**32.267**
12"	1-1/8"	11/32"	**32.268**



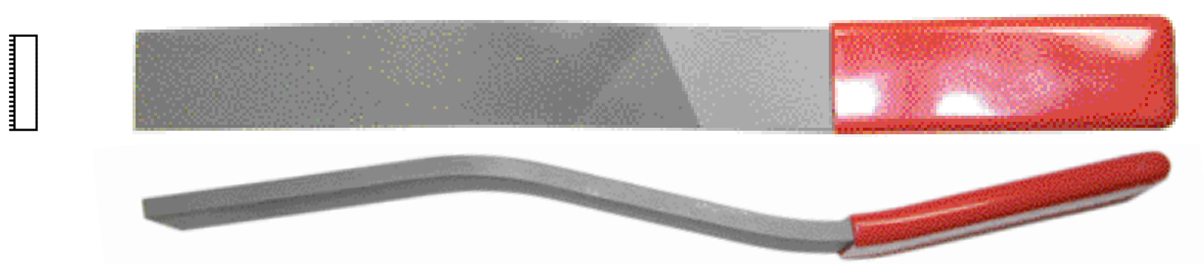
BENT BODY

Grobet's Body Files are precision hand cutting tools designed to cut or level off a metal surface. Body Files are commonly used in Automotive industry for metal finishing and repair work. The thin metal and aluminum used to form the auto body is easily damaged or dented. Before painting, all dents and deep scratches have to be removed. This file tapers toward the end. **Cut bottom - Top is safe - Both edges are safe.**

Length	Width	Thickness	TPI	Second Cut	Smooth Cut
14"	1-5/16"	7/32"	13	**32.48801**	—
14"	1-21/64"	7/32"	20	—	**32.48802**

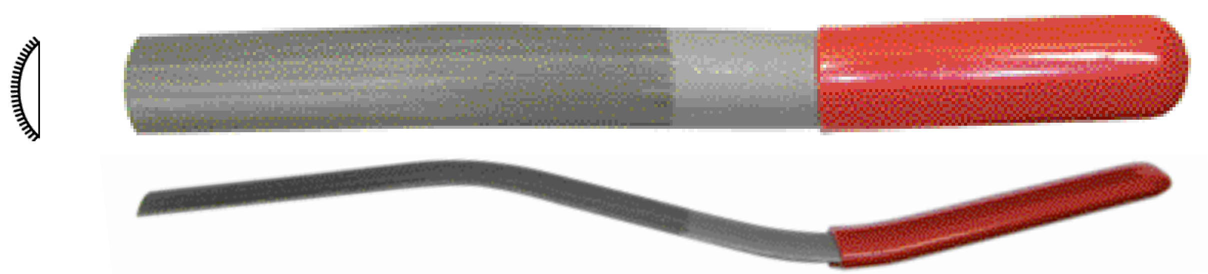
BODY BUMPING

Ideal for panel shrinking and metal removal. Removing dents and/or smooth body work on hand fabricated panels. The serrated face works in two ways: it shrinks the stretched metal, and highlights high/low spots that require hammer work. When used as a slapping hammer, with a dolly, files shrink metal to remove high spots. Shaped for easy hand use.



Flat - Second Cut bottom - Top is safe - Both edges are safe.

Length	Width	Thickness	Second Cut
14"	1-3/8"	1/4"	**32.48501**



Half Round - Second Cut bottom - Top is safe.

Length	Width	Thickness	Second Cut
14"	1-3/8"	3/8"	**32.48502**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



CHAIN SAW, ROUND

Use for sharpening all sizes of chain saw teeth. This file maintains the proper tooth shape throughout extensive use. The chain saw file user will experience a fast, smooth cutting action creating an excellent finish. **Double cut.**

Length	Diameter	GROBET Smooth Cut	GROBET SWISS Smooth Cut	GROBET PREMIUM SWISS Smooth Cut
8"	13/64"	**32.27001**	**32.270S**	**32.270**
8"	3/16"	**32.27101**	**32.271S**	**32.271**
8"	5/32"	**32.27201**	**32.272S**	**32.272**
8"	7/32"	**32.27301**	**32.273S**	**32.273**
8"	1/4"	**32.27401**	**32.274S**	**32.274**

See page 11 for Chain Saw File Sets



CONTACT POINT

Use for cleaning engine distributor points, contact points of magnets, switches, electric bell, etc. and spark plugs.
Single cut top and bottom – Both edges are safe.

Length	No.
5"	**32.500**



FARMER'S OWN FILE

General pupose file with rectangular shape. **One side double cut – One side single cut – One edge single cut – One edge is safe.**

Length	Width	Thickness	Bastard Cut
8"	31/32"	3/16"	**32.498**
10"	31/32"	3/16"	**32.499**



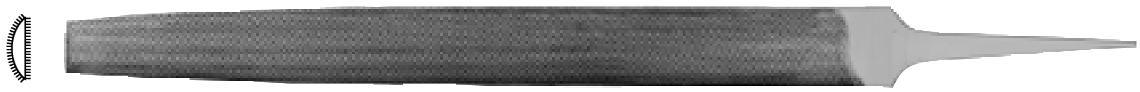
FLAT

Most often used by machinists, machinery builders and repair personnel. Use when rapid material removal is required. This double cut file is tapered in width and thickness. **Double cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut	*Black Oxide Smooth Cut
4"	15/32"	5/64"	**32.288**	—	**32.295**	**32.302**	—
6"	5/8"	5/32"	**32.289**	**32.25289**	**32.296**	**32.303**	**32.25303**
8"	25/32"	7/32"	**32.290**	**32.25290**	**32.297**	**32.304**	**32.25304**
10"	31/32"	1/4"	**32.291**	**32.25291**	**32.298**	**32.305**	**32.25305**
12"	1-5/32"	9/32"	**32.292**	**32.25292**	**32.299**	**32.306**	**32.25306**
14"	1-11/32"	5/16"	**32.293**	**32.25293**	**32.300**	**32.307**	**32.25307**

**Black Oxide files are treated with a black oxide coating to give them a longer life*

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



HALF-ROUND

These files are popular with foundries and machinists. Use for rapid material removal while leaving a smooth finish. Used for filing concave, convex and flat surfaces as well as rounding out holes. This file is rounded on one side and flat on the other. **Double cut on both sides.**

Length	Width	Thickness	Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut	*Black Oxide Smooth Cut
4"	7/16"	1/8"	**32.309**	—	**32.317**	**32.324**	—
6"	19/32"	5/32"	**32.310**	**32.25310**	**32.318**	**32.325**	**32.25325**
8"	3/4"	7/32"	**32.311**	**32.25311**	**32.319**	**32.326**	**32.25326**
10"	15/16"	9/32"	**32.312**	**32.25312**	**32.320**	**32.327**	**32.25327**
12"	1-1/8"	11/32"	**32.313**	**32.25313**	**32.321**	**32.328**	**32.25308**
14"	1-9/32"	13/32"	**32.314**	**32.25314**	**32.322**	**32.329**	**32.25309**

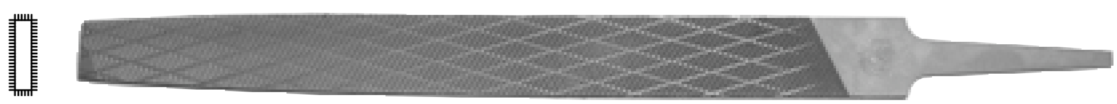
**Black Oxide files are treated with a black oxide coating to give them a longer life*



HAND

Use for rapid metal removal on sharp corners, shoulders and flat surfaces. This double cut file is similar to the Flat file without the taper. The Hand file offers one safe edge which reduces damage to the workpiece when filing up to a corner. **Double cut top and bottom – One edge single cut – One edge is safe.**

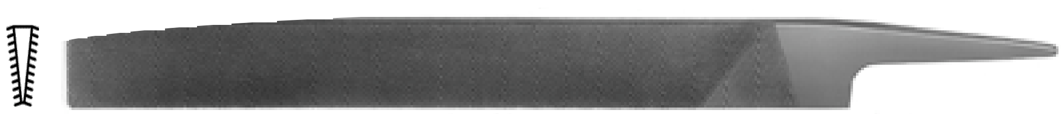
Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
6"	5/8"	5/32"	**32.331**	**32.336**	**32.341**
8"	25/32"	7/32"	**32.332**	**32.337**	**32.342**
10"	31/32"	1/4"	**32.333**	**32.338**	**32.343**
12"	1-5/32"	9/32"	**32.334**	**32.339**	**32.344**



HIGH SPEED CHIPBREAKER

This tapered file features two sets of chipbreakers, forming a diamond pattern. The High Speed chipbreaker reduces chip clogging and generates a smooth finish. The coarse teeth remove metal quickly. This file can also be used on cast iron, bronze, brass and plastics. **Diamond Pattern cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut
8"	25/32"	7/32"	**32.345**
10"	31/32"	1/4"	**32.346**
12"	1-5/32"	9/32"	**32.347**



KNIFE

The Knife file is the file of choice by tool and die makers for filing keyways, slots and acute angles. **Both sides are double cut – top edge is safe – knife edge is single cut.**

Length	Width	Thickness	Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut
4"	15/32"	7/64"	—	—	**32.354**	**32.359**
6"	21/32"	5/32"	**32.350**	**32.25350**	**32.355**	**32.360**
8"	27/32"	3/16"	**32.351**	**32.25351**	**32.356**	**32.361**
10"	1-1/32"	1/4"	**32.352**	**32.25352**	**32.357**	**32.362**

**Black Oxide files are treated with a black oxide coating to give them a longer life*

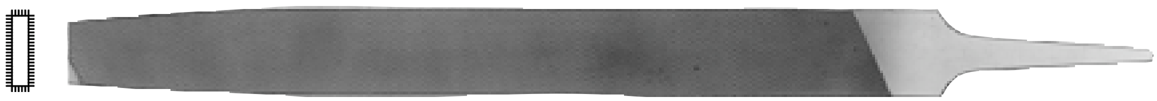
Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



LONG ANGLE LATHE

Primarily for lathe work, the Long Angle Lathe file can be used for bench filing of brass, bronze and aluminum. The teeth were designed with a long angle which provide for free cutting, rapid filing. **Single cut top and bottom – Both edges are safe.**

Length	Width	Thickness	Bastard Cut
10"	31/32"	1/4"	**32.364**
12"	1-5/32"	9/32"	**32.365**
14"	1-11/32"	5/16"	**32.366**



MILL

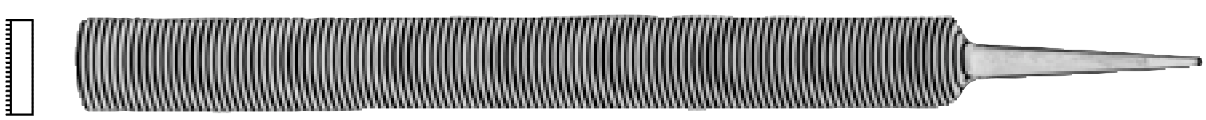
Where a smooth finish is desired, a Mill file is the file of choice. The Mill file has many applications such as sharpening saws and tools, finishing metal, lathe work, draw filing as well as general shop use. **All sides are single cut.**

Length	Width	Thickness	Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut	*Black Oxide Smooth Cut
4"	7/16"	5/64"	**32.368**	—	**32.378**	**32.384**	—
6"	19/32"	7/64"	**32.369**	**32.25369**	**32.379**	**32.385**	**32.25385**
8"	25/32"	9/64"	**32.370**	**32.25370**	**32.380**	**32.386**	**32.25386**
10"	31/32"	11/64"	**32.371**	**32.25371**	**32.381**	**32.387**	**32.25387**
12"	1-5/32"	7/32"	**32.372**	**32.25372**	**32.382**	**32.388**	**32.25388**
14"	1-5/16"	1/4"	**32.373**	**32.25373**	**32.383**	**32.389**	**32.25389**
8"	2 Round Edges		**32.376**	—	—	—	—
10"	2 Round Edges		**32.377**	—	—	—	—

**Black Oxide files are treated with a black oxide coating to give them a longer life*

MILLED CURVED TOOTH FILES

Designed for automotive and aircraft manufacturers, these efficient files are known for their fast cutting action and longer life. The sharp edges are also popular with machinists, foundries, railroad and shipyards.

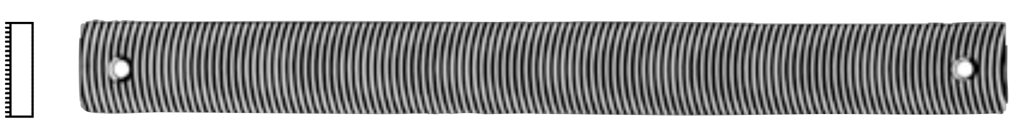


FLAT WITH TANG

Designed for use on aluminum, brass, copper, steel and hard rubber. Essential when fast filing is required.

Length	Width	Thickness	No.
10"	1"	7/32"	**32.48201**
12"	1-5/32"	17/64"	**32.48301**
14"	1-11/32"	5/16"	**32.48401**

ADJUSTABLE FLEXIBLE FILE HOLDER





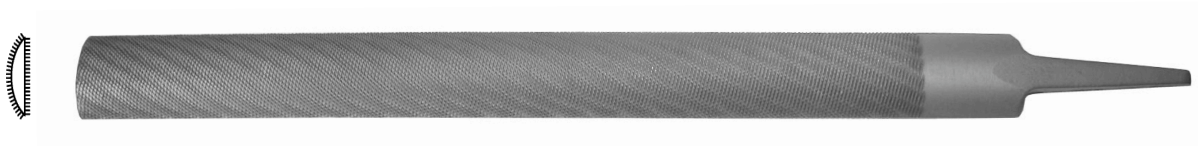
See Page 39

FLEXIBLE WITHOUT TANG

When working with sheet metal, this is the file of choice. A holder is required when using this file. This file was designed for outward, inward and flat use as teeth are present on both sides of the file.

Length	Width	Thickness	No.
10"	1"	5/32"	**32.49001**
12"	1-5/32"	3/16"	**32.49101**
14"	1-11/32"	3/16"	**32.49201**

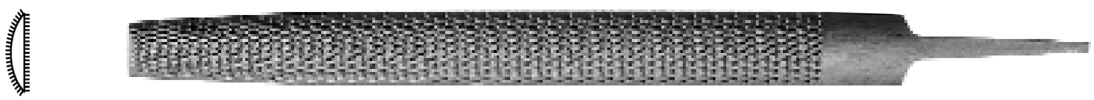
Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



PIPE-LINER

This file is used to file weld beads and scale off pipeline. **Double cut on both sides.**

Length	Width	Thickness	No.
14"	1-9/32"	13/32"	**32.497**



RASP, HALF-ROUND

When working with plywood, plastics, wallboard or other soft materials, rasps are the file of choice for cabinet makers and woodworkers. The teeth of a rasp are uniform and individually formed.
Rasp cut on top and bottom – Both edges are single cut.

Length	Diameter	Bastard Cut	Second Cut
8"	5/16"	**32.503**	**32.507**
10"	3/8"	**32.504**	**32.508**
12"	1/2"	**32.505**	**32.509**
14"	5/8"	**32.506**	



ROUND

When holes need enlarging and corners rounding, a round file is the solution. This file tapers, making it adaptable to a variety of hole sizes.
Double cut.

Length	Diameter	Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut	*Black Oxide Smooth Cut
4"	5/32"	**32.395**	—	**32.402**	**32.408**	—
6"	7/32"	**32.396**	**32.25396**	**32.403**	**32.409**	**32.25409**
8"	5/16"	**32.397**	**32.25397**	**32.404**	**32.410**	**32.25410**
10"	3/8"	**32.398**	**32.25398**	**32.405**	**32.411**	**32.25411**
12"	1/2"	**32.399**	**32.25399**	**32.406**	**32.412**	**32.25412**
14"	5/8"	**32.400**	—	—	—	—

**Black Oxide files are treated with a black oxide coating to give them a longer life*



SQUARE

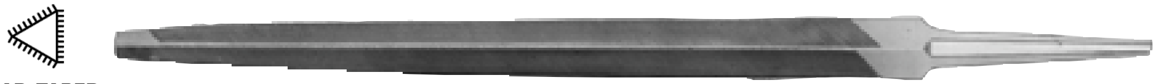
This double cut file is used when filing slots, grooves, keyways, inside corners and square holes. Tapered toward the point, all four sides are equal filing surfaces. **Double cut on all four sides.**

Length	Diameter	Bastard Cut	Second Cut	Smooth Cut
4"	5/32"	**32.414**	**32.421**	**32.427**
6"	7/32"	**32.415**	**32.422**	**32.428**
8"	5/16"	**32.416**	**32.423**	**32.429**
10"	3/8"	**32.417**	**32.424**	**32.430**
12"	1/2"	**32.418**	**32.425**	**32.431**
14"	5/8"	**32.419**	—	**32.432**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

TAPER SAW, SINGLE CUT

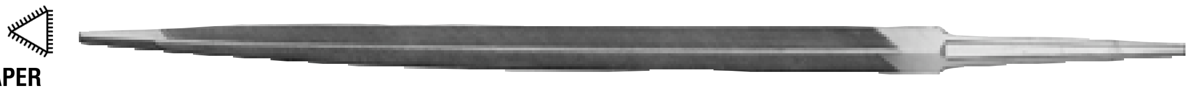
The Taper Saw file is a triangular, single cut file designed for filing a variety of saws with 60 degree angled teeth. Tapered toward a point, this file has cut edges for filing gullets between saw teeth. Taper saw files are available in a number of widths: regular, slim, extra slim and double extra slim. **Single cut on all three sides.**



REGULAR TAPER

Length	Width	No.	Black Oxide	Length	Width	No.
4"	1/4"	**32.43101**	—	7"	17/32"	**32.434**
5"	5/16"	**32.43201**	—	8"	19/32"	**32.435**
6"	15/32"	**32.433**	**32.25433**	10"	23/32"	**32.436**

**Black Oxide files are treated with a black oxide coating to give them a longer life*



SLIM TAPER

Length	Width	No.	Black Oxide	Length	Width	No.
4"	7/32"	**32.438**	—	7"	13/32"	**32.441**
5"	9/32"	**32.439**	—	8"	15/32"	**32.442**
6"	11/32"	**32.440**	**32.25440**	10"	5/8"	**32.443**

**Black Oxide files are treated with a black oxide coating to give them a longer life*



EXTRA SLIM TAPER

Length	Width	No.	Length	Width	No.
4"	3/16"	**32.445**	7"	5/16"	**32.448**
5"	15/64"	**32.446**	8"	13/32"	**32.449**
6"	9/32"	**32.447**			



DOUBLE EXTRA SLIM

Length	Width	No.	Length	Width	No.
4"	5/32"	**32.450**	7"	1/4"	**32.453**
5"	3/16"	**32.451**	8"	5/16"	**32.454**
6"	7/32"	**32.452**			

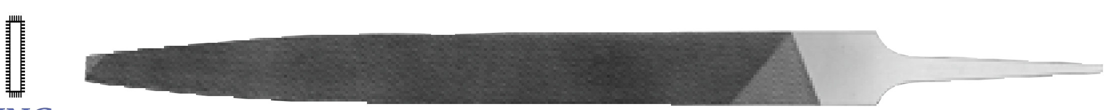


THREE - SQUARE

The Three Square file is the file of choice by machinists when filing angles more acute than 90 degrees, for cleaning out corners and filing taps and cutters. This triangular file is tapered to the point. This file can get into corners other files cannot. **Double cut on all three sides.**

Length	Width	t Bastard Cut	*Black Oxide Bastard Cut	Second Cut	Smooth Cut
4"	11/32"	**32.455**	—	**32.45501**	**32.45502**
6"	15/32"	**32.456**	**32.25456**	**32.460**	**32.464**
8"	5/8"	**32.457**	**32.25457**	**32.461**	**32.465**
10"	3/4"	**32.458**	—	**32.462**	**32.466**
12"	31/64"	**32.459**	—	**32.463**	**32.467**

**Black Oxide files are treated with a black oxide coating to give them a longer life*



WARDING

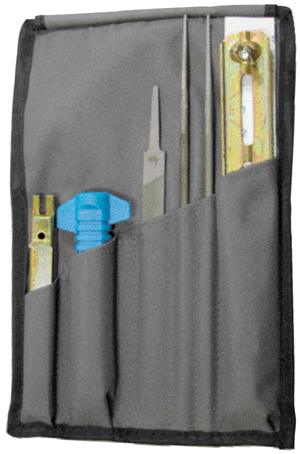
A popular file with locksmiths, the Warding file was designed for filing or repairing "wards" in locks and keys. As the Warding file is thin, it is also suited for any application where the space is too narrow for other files to fit. This file tapers toward the end. **Double cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	15/32"	3/64"	**32.468**	**32.473**	**32.477**
6"	5/8"	5/64"	**32.469**	**32.474**	**32.478**
8"	25/32"	3/32"	**32.470**	**32.475**	**32.479**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

CHAIN SAW SHARPENING KITS

This sharpening kit was designed with the assistance of a forestry school. It is suited to the needs of non-professional and occasional users. In the blister pack version, the kit is delivered with a CD, which will guide the user in acquiring proper chain sharpening technique. File diameters must be selected according to the type of chain to be sharpened.



Benefits:

- Guaranteed easy learning
- Precise and efficient sharpening
- Increased safety
- Smooth cut and bite
- All tools close at hand
- Always neat and tidy
- Saves space
- Easily transportable

This kit contains:

File Guide



Depth Gauge



Chain Saw File



Flat File



File Handle



Bar Groove Cleaner



A demonstration CD is supplied with the blister pack version





Rolled version

Part Number	(in)
No. **32.28001**	13/64"
No. **32.28002**	3/16"
No. **32.28003**	5/32"
No. **32.28004**	7/32"



Blister pack version

Part Number	(in)
No. **32.28201**	13/64"
No. **32.28202**	3/16"
No. **32.28203**	5/32"
No. **32.28204**	7/32"

7-PIECE FILE SETS

Recommended for both professional and home use. Comes in a heavy duty black canvas pouch - no handles

- Quality in hardness and regularity
- Efficient bite to the edges
- Long life

No.**32.4807**



Set Includes:

10" Mill Bastard Cut, 10" Half Round Bastard Cut, 10" Flat Bastard Cut, 10" Flat Smooth Cut, 10" Round Bastard Cut, 10” Square Bastard Cut, 7" Slim Taper.

5 PIECE AMERICAN PATTERN FILE SETS

- Uniform cut for fast metal removal
- Extremely durable
- Unsurpassed in accuracy of shape and cut
- Best results on steel, cast iron, wood and thermoplastics



Each Set Includes:

Round, Half Round, Mill, 3 Square and Flat Files with handles.

No. **32.520 -** Bastard Cut 8"
No. **32.522 -** Bastard Cut 10"
No. **32.521 -** Second Cut 8"
No. **32.523 -** Second Cut 10"



9-PIECE FILE SETS

Recommended for both professional and home use, these tools have an exceptional filing capacity. Comes in a heavy duty black canvas pouch

- Quality in hardness and regularity • Efficient bite to the edges • Long life

All files come pre-assembled with Ergo handles.

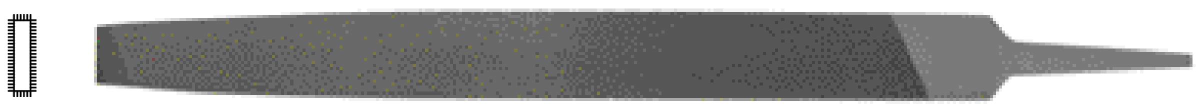
Set Includes:

6" Double Extra Slim Taper, 10" Mill Bastard Cut, 8" Half Round Wood Rasp Bastard Cut, 10" Half Round Bastard Cut, 8" Flat Bastard Cut, 10" Flat Bastard Cut, 10" Round Bastard Cut, 12" Mill Bastard Cut, 6" Slim Taper.

No.**32.4809**

Laminate Files

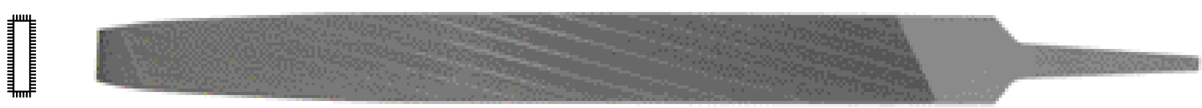
Laminate Files are designed specifically for maximum performance on laminates. Good for edge finishing other plastics. Laminate files save time, effort and money by cutting faster, easier and lasts longer than ordinary files.



MILL

Where a smooth finish is desired, a Mill file is the file of choice. **Single cut.**

Length	Width	Thickness	No.
8"	25/32"	9/64"	**32.39008**
10"	31/32"	11/64"	**32.39010**



RAPID

Double cut for rapid material removal.

Length	Width	Thickness	No.
8"	25/32"	9/64"	**32.39080**
10"	31/32"	11/64"	**32.39100**



FARMER'S OWN FILE

One side double cut - One side single cut - One edge single cut - One edge is safe.

Length	Width	Thickness	No.
10"	1-1/32"	1/4"	**32.39110**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

Grobet Swiss Precision Files

The world's standard for quality and performance!

Grobet Swiss Precision Files are manufactured to precise production standards, using a combination of machine cutting and hand craftsmanship to produce the most accurate, best cutting and longest-lasting files in the world. They are made of the finest heat-tempered, chrome alloy steel and have the "right" feel, action and balance desired by all true craftsmen. **Grobet Swiss Precision Files** deliver superior performance on all metals. Simply the best you can buy. Grobet Swiss Precision Files are measured in length from the point where the teeth begin to the end of the file. *The handle section (tang) is not considered in the file length.*

Guide to Selecting Swiss Precision Files

As shown in the File Finder chart, each configuration calls for a different type of file. There is more to file selection than shape alone. The cut selected is equally important. Determination of cut depends on the type and form of material to be worked, amount of material to be removed and the finish desired. For example, rapid removal of stock often indicates a No. 00 cut, while working on narrow surfaces would suggest a No. 2 cut and final finishing operations might take a fine cut such as No. 4. In the final analysis, file selection cannot be reduced to a formula or table but will be based to a great degree on experience and common sense. Whatever type, shape, size or cut may be required, one thing is certain: there is a Grobet Swiss precision file that meets the specifications. And the accuracy and finish delivered by these files will clearly show why craftsmen have made Grobet Swiss the leader in precision files for so many years.

File Finder

Basic Application	Type of File Recommended
Corners-holes-edges	Three-Square
Corners-holes	Square
Corners-slots	Equalling
Corners-slots	Slitting
Curved surfaces-corners-holes	Half-Round
Curved surfaces-junctures of curved and flat surfaces-corners-holes	Crossing
Edges, joints	Joint
Flat surfaces	Hand
Flat surfaces-corners-keyways dovetail ways-gear teeth-deburring	Barrette
Flat surfaces-slots	Pillar
Roughening surfaces for hand grips	Checkering
Rounded corners-slots-flat surfaces-junctures between curved and flat surfaces	Crochet
Rounded corners-holes-"V" slots	Pippin
Rounded inside corners-holes	Round
Slots	Screwhead
Slots	Warding
Slots-wedge-shaped openings	Knife

Scale of Cuts

The scale of cuts for Swiss precision files as well as the basic shapes were developed by Grobet, dating back to the founding of Grobet Freres in 1812. Additions and refinements have been made to meet the changing requirements of modern technologies. Here is the scale of cuts for Grobet Swiss precision files.

Teeth per inch (upcut)	30	41	51	64	79	97	117	142	173	213	295
Files 10" and over in length	00	0	1	2	3	4	-	6	-	-	-
Files 4" to 8" in length	-	00	0	1	2	3	4	-	6	-	-
Files 3" in length	-	-	00	0	1	2	3	4	-	6	8
Escapement Files	-	-	0	-	2	3	4	-	6	-	-
Needle Files 4" to 7-3/4"	-	-	0	-	2	3	4	-	6	-	-
Regular Rifflers	-	-	0	-	2	3	4	-	6	-	-

Types of Files

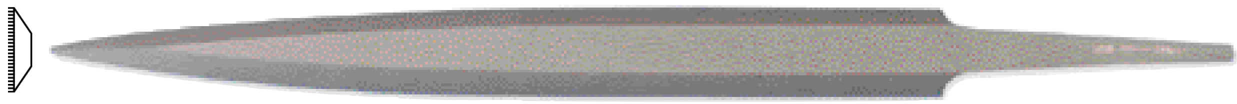
There are four types of files detailed in the following pages:

Swiss Precision Files - The original Grobet-Swiss files made in hundreds of shapes and sizes.

Swiss Needle Files - A group of files of various cross-sections with a knurled, round handle. Knurling gives the file a positive, non-Slip grip for precision filing.

Escapement Files - Also called Square Handled Needle Files. A group of files of various cross-sectioned shapes with a length of cut varying from 3/4" to 2-1/2", and long, square handles.

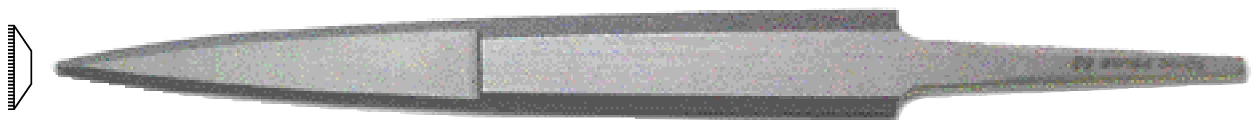
Rifflers - Originally used and hand forged by die sinkers, die makers, silversmiths, etc., in shapes and cross-sections appropriate to their work. Teeth are cut on small areas on each end and can have a variety of shapes. A long middle portion serves as the handle.



BARRETTE

Tapered in width and thickness, coming to a point. Only flat side is cut, providing safe edge and top. **Double cut.**

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
3"	75	23/64"	9.1	3/32"	2.4	—	**31.021**	—	—	—
4"	100	1/2"	12.7	1/8"	3.2	**31.022**	**31.023**	**31.024**	**31.025**	**31.026**
6"	150	23/32"	18.3	5/32"	4.0	**31.027**	**31.028**	**31.029**	**31.030**	**31.031**
8"	200	7/8"	22.2	13/64"	5.2	—	**31.032**	—	**31.033**	—



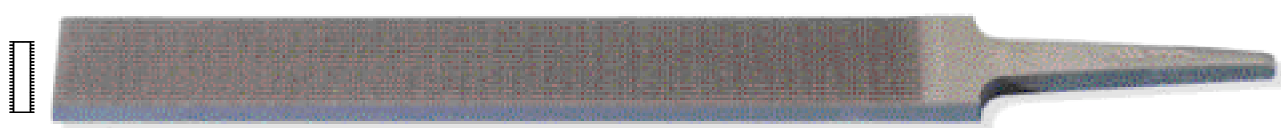
BARRETTE-HOT DIE

Same as regular Barrette files except with ground backs, widely used in making and repairing extrusion dies. **Double cut.**

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00
3"	75	3/8"	9.5	3/32"	2.4	**31.017**
4"	100	1/2"	12.7	1/8"	3.2	**31.018**

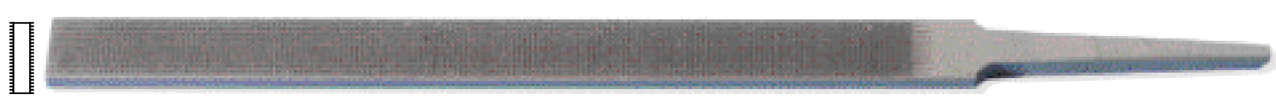
CHECKERING

Parallel in width and gently tapered in thickness. Overcut is parallel to file edges and upcut is 90º to overcut. Useful for putting serrations on knife edges and to obtain a checkered design similar to a gun hand grip. **Double cut top and bottom – Both edges are safe.**



HAND CHECKERING

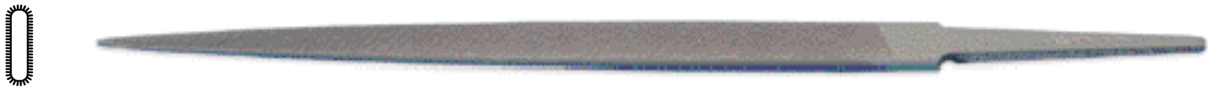
Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2
6"	150	3/4"	19.1	3/16"	5.2	**31.035**	**31.036**	**31.037**	**31.038**
Lines per inch/cm						20/8	30/12	40/16	50/20



PILLAR CHECKERING

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
6"	150	1/2"	12.7	11/64"	4.4	**31.040**	**31.041**	**31.042**	**31.043**	**31.045**
Lines per inch/cm						20/8	30/12	40/16	50/20	75/30

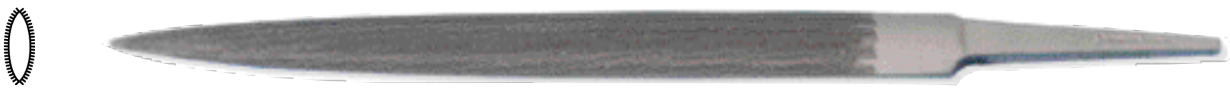
Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



CROCHET

Tapered in width and gradually tapered in thickness. Used in filing junctions between a flat and curved surface. Useful in developing slots with rounded edges. **Double cut top and bottom – Both edges are single cut.**

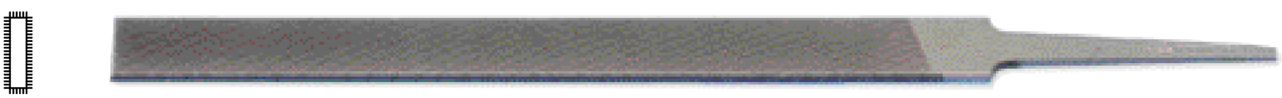
Length		Width		Thickness				
(in)	(mm)	(in)	(mm)	(in)	(mm)	Cut 00	Cut 0	Cut 2
4"	100	5/16"	7.9	3/32"	2.4	—	**31.047**	**31.048**
6"	150	13/32"	10.3	9/64"	3.6	**31.049**	**31.050**	**31.051**
8"	200	15/32"	11.9	11/64"	4.4	**31.052**	**31.053**	**31.054**



CROSSING

Half-round on two sides, with one side having a larger radius than the other. Tapered in width and thickness. Cut and usable to the point. Used primarily for filing interior curved surfaces. The double radius makes possible the filing at the junction of two curved surfaces or a straight and a curved surface. **Double cut on both sides.**

Length		Width		Thickness				
(in)	(mm)	(in)	(mm)	(in)	(mm)	Cut 0	Cut 2	Cut 4
4"	100	15/32"	11.9	9/64"	3.6	**31.056**	**31.057**	**31.058**
6"	150	19/32"	15.1	3/16"	4.5	**31.059**	**31.060**	**31.061**
8"	200	13/16"	20.6	15/64"	6.0	**31.062**	**31.063**	—



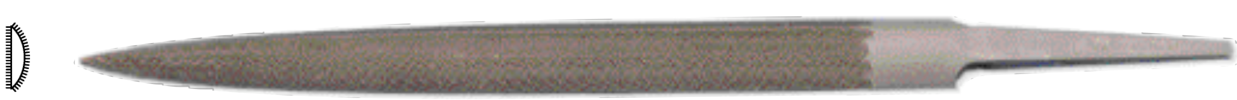
EQUALLING

Parallel in width and thickness. Used primarily for filing slots and corners. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness					
(in)	(mm)	(in)	(mm)	(in)	(mm)	Cut 00	Cut 0	Cut 2	Cut 4
4"	100	13/32"	10.3	5/64"	2.0	—	**31.065**	**31.066**	**31.067**
6"	150	1/2"	12.7	7/64"	2.8	**31.068**	**31.069**	**31.070**	**31.071**
8"	200	21/32"	16.7	1/8"	3.2	**31.072**	**31.073**	**31.074**	—

Equalling-Special Thickness

Length		Width		Approx. Thickness		Stubs Iron			
(in)	(mm)	(in)	(mm)	(in)	(mm)	Wire Gauge No.	Cut 0	Cut 2	Cut 4
4"	100	13/32"	10.3	.047"	1.25	18	**31.076**	**31.077**	—
4"	100	13/32"	10.3	.035"	0.91	20	—	**31.080**	**31.081**
4"	100	13/32"	10.3	.031"	0.81	21	**31.082**	**31.083**	—
4"	100	13/32"	10.3	.028"	0.71	22	—	**31.084**	**31.085**
4"	100	13/32"	10.3	.022"	0.56	24	—	**31.086**	**31.087**
4"	100	13/32"	10.3	.018"	0.46	26	—	**31.088**	—
4"	100	13/32"	10.3	.014"	0.38	28	—	**31.090**	**31.091**
6"	150	1/2"	12.7	.083"	2.05	14	**31.092**	**31.093**	—
6"	150	1/2"	12.7	.065"	1.65	16	**31.094**	**31.095**	—
6"	150	1/2"	12.7	.047"	1.25	18	**31.096**	**31.097**	—



HALF-ROUND

Tapered in width and thickness, coming to a point. **Double cut on both sides.**

Length		Width		Thickness								
(in)	(mm)	(in)	(mm)	(in)	(mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
3"	75	5/16"	7.9	3/32"	2.5	—	—	—	**31.100**	—	—	—
4"	100	15/32"	11.9	9/64"	3.6	**31.102**	**31.103**	—	**31.104**	**31.106**	**31.107**	—
5"	125	33/64"	13.1	5/32"	4.0	—	—	—	**31.108**	—	—	—
6"	150	19/32"	15.1	3/16"	4.8	**31.111**	**31.112**	**31.113**	**31.114**	**31.115**	**31.116**	**31.117**
8"	200	13/16"	20.6	15/64"	6.0	**31.118**	**31.119**	**31.120**	**31.121**	—	**31.122**	—
10"	250	1"	25.4	19/64"	7.5	**31.123**	**31.124**	—	**31.125**	—	—	—

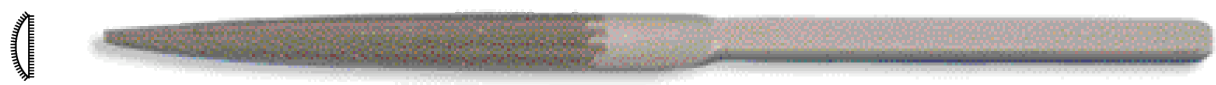
Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.



HALF-ROUND RING

Tapered in width and thickness, coming to a point. Narrower than regular half-round and, therefore, useful for filing inside of rings.
Double cut on both sides.

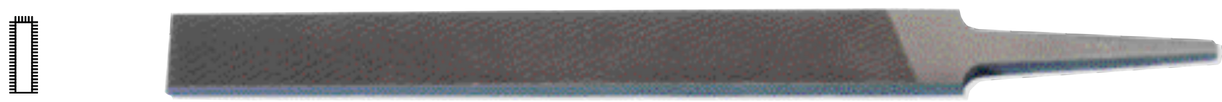
Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4
6"	150	15/32"	11.9	9/64"	3.6	**31.127**	**31.128**	**31.129**	**31.130**	**31.131**	**31.132**



ECONOMY HALF-ROUND RING

Made with a built in handle.

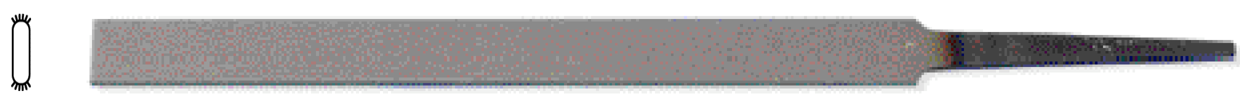
Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 0
6"	150	7/16"	11.1	1/8"	3.2	**33.814**



HAND

Parallel in width and tapered in thickness. **Double cut top and bottom – One edge single cut – One edge is safe.**

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	17/32"	13.5	1/8"	3.2	—	**31.140**	—	**31.141**	—	**31.142**	—
6"	150	3/4"	19.1	5/32"	4.0	**31.143**	**31.144**	**31.145**	**31.146**	**31.147**	**31.148**	**31.149**
8"	200	29/32"	22.0	3/16"	4.8	**31.150**	**31.151**	**31.152**	**31.153**	—	**31.154**	—
10"	250	1"	25.4	1/4"	6.4	**31.155**	**31.156**	—	**31.157**	—	—	—
12"	300	1-3/16"	30.0	5/16"	7.9	**31.158**	**31.159**	—	—	—	—	—

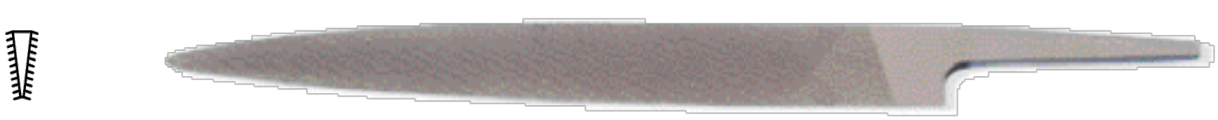


JOINT ROUND EDGE

Parallel in width and thickness, with rounded edges, these files are cut on the edges only. Length is 4" (100 mm). **Cut is number 2 – Single Cut.**

No.	**31.161**	**31.162**	**31.163**	**31.164**	**31.165**	**31.166**	**31.167**	**31.168**	**31.169**
Approx. thickness-inch	.059"	.047"	.039"	035"	.031"	.028"	.024"	.020"	.016"
Approx. thickness-mm	1.5	1.2	1.0	.9	.8	.7	.6	.5	.4
Stubs iron wire gauge	17	18	19	20	21	22	23	25	27

(This file is too thin to use with plastic handles.)



KNIFE

Tapered in width and thickness, with the knife edge having the same thickness from point to shoulder. The included angle of the sharp edge is approximately 10°. Generally used to file in a slot or wedge shaped opening. Curved knife edge allows for easily filing in restricted areas.
Double cut on both sides – Top edge is safe – Knife edge is single cut.

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
4"	100	15/32"	11.9	1/8"	3.2	**31.174**	**31.175**	**31.176**	**31.177**	**31.178**
6"	150	23/32"	18.3	5/32"	4.0	**31.179**	**31.180**	**31.181**	**31.182**	**31.183**
8"	200	7/8"	22.2	13/64"	5.2	**31.184**	**31.185**	**31.186**	**31.187**	—

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

PILLAR FILES

These files are parallel in width and tapered in thickness to make possible perfectly flat filing. **Double cut top and bottom – Both edges are safe**.



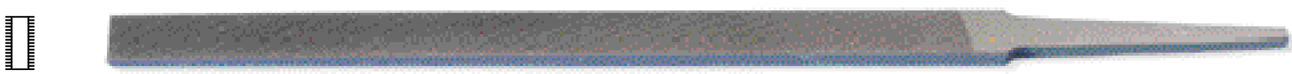
EXTRA NARROW PILLAR

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4	Cut 6
3"	75	1/8"	3.2	5/64"	2.0	—	—	—	**31.200**	—	—
4"	100	5/32"	4.0	5/64"	2.0	**31.201**	**31.202**	—	**31.204**	**31.205**	—
6"	150	13/64"	5.2	1/8"	3.2	**31.206**	**31.207**	**31.208**	**31.209**	**31.210**	**31.211**
8"	200	9/32"	7.1	9/64"	3.6	**31.212**	**31.213**	**31.214**	**31.215**	**31.216**	—
10"	250	11/32"	8.7	11/64"	4.4	**31.217**	—	—	—	—	—



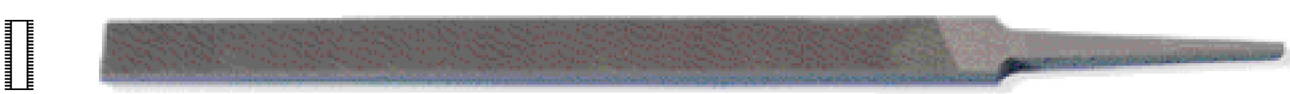
NARROW PILLAR

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4	Cut 6
4"	100	3/16"	4.8	3/32"	2.5	**31.219**	**31.220**	**31.221**	**31.222**	**31.223**	—
6"	150	1/4"	6.4	9/64"	3.6	**31.224**	**31.225**	**31.226**	**31.227**	**31.228**	**31.229**
8"	200	11/32"	8.7	11/64"	4.4	**31.230**	**31.231**	**31.232**	**31.233**	—	—
10"	250	25/64"	9.9	3/16"	4.8	**31.234**	**31.235**	—	—	—	—



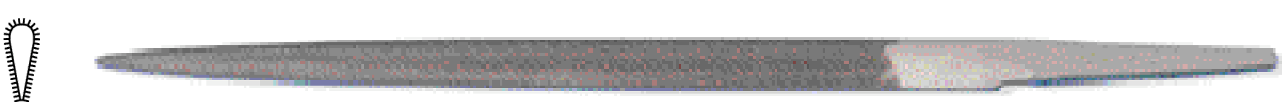
DEMI-NARROW PILLAR

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 0	Cut 1	Cut 2
6"	150	3/8"	9.5	5/32"	4.0	**31.192**	**31.193**	**31.194**



REGULAR PILLAR

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	3/8"	9.5	1/8"	3.2	**31.237**	**31.238**	**31.239**	**31.240**	—	**31.241**	—
6"	150	1/2"	12.7	11/64"	4.4	**31.243**	**31.244**	**31.245**	**31.246**	**31.247**	**31.248**	**31.249**
8"	200	19/32"	15.1	13/64"	5.2	**31.251**	**31.252**	**31.253**	**31.254**	**31.255**	**31.256**	—
10"	250	23/32"	18.3	15/64"	6.0	**31.257**	**31.258**	—	**31.259**	—	—	—
12"	300	25/32"	19.8	9/32"	7.1	**31.260**	**31.261**	—	—	—	—	—



PIPPIN

Tapered in width and thickness. Combines the cross-sections of the round file, with the crossing file, along with the edge of a knife file. For finishing the junction of two different curved surfaces and for opening slots when a "V" shape is required.
Double cut on both sides – Top and bottom edge are single cut.

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 0	Cut 2	Cut 4
6"	150	25/64"	9.9	9/64"	3.6	**31.267**	**31.268**	**31.269**
8"	200	15/32"	11.9	11/64"	4.4	**31.271**	**31.272**	—

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

GROBET USA



ROUND

Gradually tapered and cut and workable to the point. Used where it is necessary to enlarge a hole or round off a radius. **Double cut**.

Length (in)	Length (mm)	Diameter (in)	Diameter (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
3"	75	3/32"	2.4	—	***31.275**	**31.276**	**31.277**	—	—	—
4"	100	5/32"	4.0	***31.279**	***31.280**	**31.281**	**31.282**	—	**31.283**	—
5"	125	13/64"	5.2	—	—	—	**31.286**	—	—	—
6"	150	1/4"	6.4	***31.287**	***31.288**	**31.289**	**31.290**	**31.291**	**31.292**	**31.293**
8"	200	5/16"	7.9	***31.294**	***31.295**	**31.296**	**31.297**	—	**31.298**	—
10"	250	13/32"	10.3	***31.299**	***31.300**	—	**31.302**	—	—	—

**Indicates blunt end*



ROUND PARALLEL

Cut over the entire surface (does not taper to point). **Double cut**.

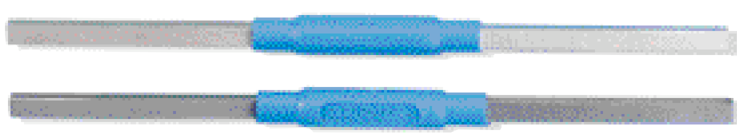
Length (in)	Length (mm)	Diameter (in)	Diameter (mm)	Cut 00	Cut 0	Cut 2
4"	100	1/16"	1.6	—	**31.304**	**31.305**
4"	100	1/8"	3.2	—	**31.307**	—
6"	150	3/32"	2.4	—	**31.311**	**31.312**
6"	150	1/8"	3.2	—	**31.315**	**31.316**
6"	150	5/32"	4.0	**31.318**	**31.319**	**31.320**
6"	150	3/16"	4.8	**31.321**	**31.322**	**31.323**
6"	150	1/4"	6.4	—	—	**31.326**



SCREWHEAD with TANG

Used for filing slots in small screws. Available in thicknesses ranging from No. 1 (thickest) to No. 8 (thinnest). **Single cut on both edges – Both sides are safe.**

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness 1 (.032") (.80 mm)	2 (.028") (.70 mm)	3 (.024") (.60 mm)	4 (.022") (.55 mm)	6 (.018") (.45 mm)	8 (.014") (.35mm)
3"	75	25/64"	9.9	—	**31.332**	**31.333**	**31.334**	**31.335**	**31.336**
4"	100	15/32"	11.9	**31.337**	**31.338**	—	**31.339**	—	—

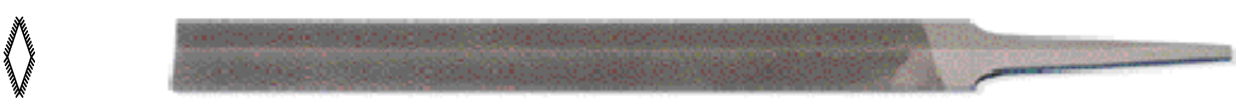


UNIVERSAL PIVOT FILE/BURNISHER

These regular burnishers are polished and have slightly rounded corners. 7⅛" (18 cm) length.

No. **31.01710** Right

No. **31.01720** Left



SLITTING

Parallel in width with identical contour on top and bottom. Thinner than knife files and used for filing slots. **Double cut top and bottom – Both edges are single cut.**

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 0	Cut 2
6"	150	19/32"	15.1	1/8"	3.2	**31.342**	**31.343**

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

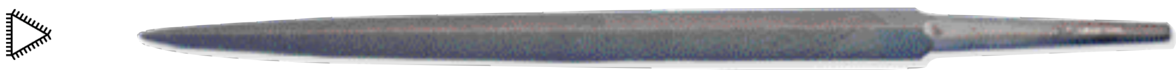


SQUARE

A general purpose file, cut and usable to the point. Gradually tapered. **Double cut on all four sides**.

Length (in)	Length (mm)	Diameter (in)	Diameter (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
4"	100	5/32"	4.0	***31.345**	***31.346**	—	**31.348**	—
6"	150	15/64"	6.0	***31.349**	***31.350**	**31.351**	**31.352**	**31.353**
8"	200	5/16"	7.9	***31.354**	***31.355**	—	**31.356**	—
10"	250	13/32"	10.3	***31.357**	—	—	—	—

**Indicates blunt end*



THREE-SQUARE

Gradually tapered, cut and workable to the point. **Double cut on all three sides**.

Length (in)	Length (mm)	Diameter (in)	Diameter (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
4"	100	9/32"	7.1	**31.366**	**31.367**	**31.368**	**31.369**	**31.370**
6"	150	3/8"	9.5	**31.371**	**31.372**	**31.373**	**31.374**	**31.375**
8"	200	1/2"	12.7	**31.376**	**31.377**	**31.378**	**31.379**	—



THREE-SQUARE SLIM

Same as three-square, except thinner, for working in smaller areas. **Double cut on all three sides**.

Length (in)	Length (mm)	Width (in)	Width (mm)	Cut 0	Cut 2
6"	150	5/16"	7.9	**31.381**	**31.382**

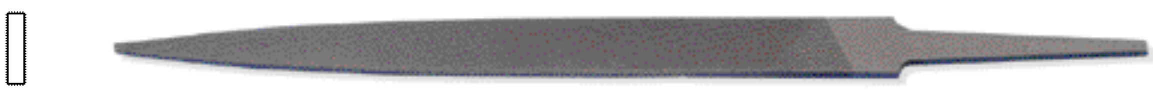
Use plastic file handles: size 4.



VUL-CRYLIC

Double-end vulcanite file with open, coarse teeth for filing plastics, waxes and soft materials. One end is coarser than the other. **Double cut on both sides.**

Length (in)	Length (mm)	Width (in)	Width (mm)	No.
7"	175	1/2"	12.7	**31.385**
8"	200	35/64"	14	**31.384**



WARDING

Parallel in thickness and tapered in width. Useful for removal of burs. **Double cut top and bottom – Both edges are single cut**.

Length (in)	Length (mm)	Width (in)	Width (mm)	Thickness (in)	Thickness (mm)	Cut 00	Cut 0	Cut 2	Cut 4
3"	75	23/64"	9.1	1/32"	0.8	—	**31.387**	**31.388**	—
4"	100	1/2"	12.7	3/64"	1.2	**31.389**	**31.390**	**31.391**	**31.392**
6"	150	5/8"	15.9	5/64"	2.0	**31.393**	**31.394**	**31.395**	**31.396**
8"	200	7/8"	22.2	7/64"	2.8	**31.397**	**31.398**	**31.399**	—

Warding-Special Thickness

No.	Length (in)	Length (mm)	Width (in)	Width (mm)	Approx. Thickness (in)	Approx. Thickness (mm)	Stubs Iron Wire Gauge	Cut No.
31.401	3"	75	23/64"	9.1	.025"	0.61	23	0
31.402	4"	100	1/2"	12.7	.031"	0.81	21	0
31.403	6"	150	5/8"	15.9	.065"	1.65	16	0
31.405	6"	150	5/8"	15.9	.047"	1.25	18	2
31.406	6"	150	5/8"	15.9	.042"	1.02	19	0
31.407	6"	150	5/8"	15.9	.042"	1.02	19	2

(This file is too thin to use with plastic handles.)

Note: See pages 38-40 for our complete file handle line, including charts on plastic file handles.

DIE SINKERS' FILES

Overall length: 5-1/4" (133 mm). Length of cut: 3-1/2" (89 mm).

AURIFORM

Cut 0	Cut 2
31.420	31.421



CROCHET

Cut 0	Cut 2
31.422	31.423



FLAT

Cut 0	Cut 2
31.424	31.425



HALF-ROUND

Cut 0	Cut 2
31.426	31.427



KNIFE

Cut 0	Cut 2
31.428	31.429



LOZENGE

Cut 0	Cut 2
31.430	31.431



OVAL

Cut 0	Cut 2
31.432	31.433



PIPPIN

Cut 0	Cut 2
31.434	31.435



ROUND

Cut 0	Cut 2
31.436	31.437



SQUARE

Cut 0	Cut 2
31.438	31.439



THREE-SQUARE

Cut 0	Cut 2
31.440	31.441



WARDING

Cut 0	Cut 2
31.442	31.443



ASSORTED SET OF 12

Cut 0	Cut 2
31.445	31.446

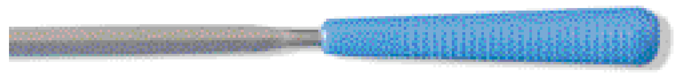
GROBET SWISS NEEDLE FILES

Precision files, for exacting work, especially under magnification. Made of the highest quality steel, machined and finished for precision shape, accuracy and balance. With round, knurled handles or plastic handles as noted.

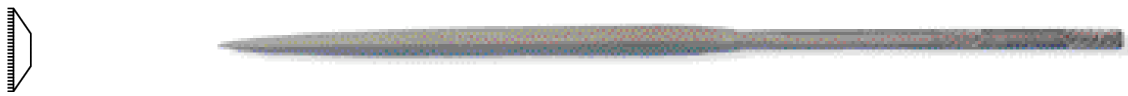
- Length 4" (10 cm) has cut portion of 1-3/4" (44 mm)
- Length 5-1/2" (14 cm) has cut portion of 2-1/2" (64 mm)
- Length 6-1/4" (16 cm) has cut portion of 3" (76 mm)
- Length 7-3/4" (20 cm) has cut portion of 4-1/8" (105 mm)



Knurled Handle



Plastic Handle



BARRETTE

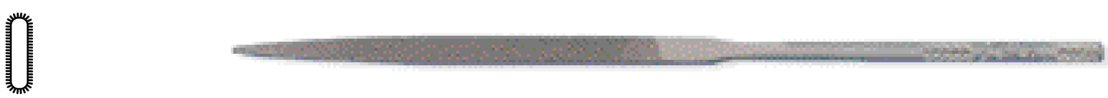
Overall Length (in)	(cm)	Knurled Handles Cut 00	Knurled Cut 0	Knurled Cut 2	Knurled Cut 4	Knurled Cut 6	Plastic Handles Cut 0	Plastic Cut 2	Plastic Cut 4
4"	10	—	**31.450**	**31.451**	**31.452**	—	**30.450**	**30.451**	—
5-1/2"	14	—	**31.453**	**31.454**	**31.456**	—	**30.453**	**30.454**	**30.456**
6-1/4"	16	**31.458**	**31.459**	**31.461**	**31.463**	**31.464**	**30.459**	**30.461**	**30.463**
7-3/4"	20	—	**31.466**	**31.468**	**31.470**	**31.471**			



BARRETTE, GROUND BACK

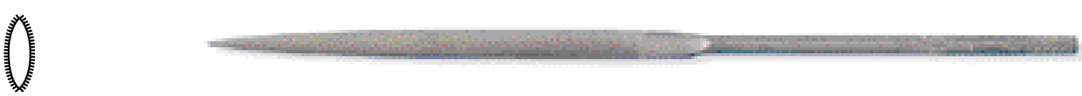
Widely used in making and repairing extrusion dies.

Overall Length (in)	(cm)	Knurled Handles Cut 0
5-1/2"	14	**31.693**
6-1/4"	16	**31.694**



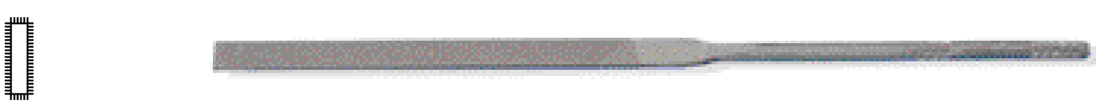
CROCHET

Overall Length (in)	(cm)	Knurled Handles Cut 0	Cut 2	Cut 4
4"	10	**31.474**	**31.475**	—
5-1/2"	14	**31.477**	**31.478**	**31.479**
6-1/4"	16	**31.480**	**31.481**	**31.482**



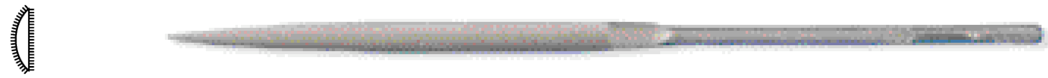
CROSSING

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Cut 2	Knurled Cut 4	Knurled Cut 6	Plastic Handles Cut 0	Plastic Cut 2	Plastic Cut 4
4"	10	**31.484**	**31.485**	—	—	**30.484**	**30.485**	—
5-1/2"	14	**31.487**	**31.488**	**31.489**	—	**30.487**	**30.488**	**30.489**
6-1/4"	16	**31.490**	**31.491**	**31.492**	**31.493**	**30.490**	**30.491**	**30.492**
7-3/4"	20	**31.494**	**31.495**	**31.496**	—			



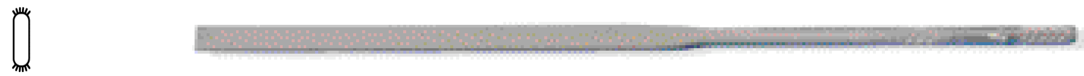
EQUALLING

Overall Length (in)	(cm)	Knurled Handles Cut 00	Knurled Cut 0	Knurled Cut 2	Knurled Cut 4	Knurled Cut 6	Plastic Handles Cut 0	Plastic Cut 2	Plastic Cut 4
4"	10	—	**31.498**	**31.499**	**31.500**	—	**30.498**	**30.499**	—
5-1/2"	14	—	**31.501**	**31.502**	**31.503**	—	**30.501**	**30.502**	**30.503**
6-1/4"	16	**31.505**	**31.506**	**31.508**	**31.510**	**31.511**	**30.506**	**30.508**	**30.510**
7-1/4"	20	—	**31.512**	**31.513**	**31.514**	—			



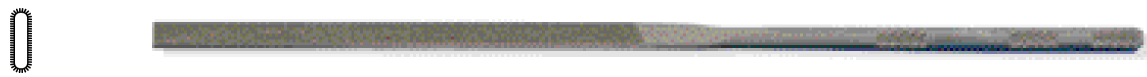
HALF-ROUND

Overall Length (in)	(cm)	Knurled Handles Cut 00	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4	Knurled Handles Cut 6	Plastic Handles Cut 0	Plastic Handles Cut 2	Plastic Handles Cut 4
4"	10	—	**31.516**	**31.517**	—	—	**30.516**	**30.517**	—
5-1/2"	14	—	**31.519**	**31.520**	**31.522**	—	**30.519**	**30.520**	**30.522**
6-1/4"	16	**31.524**	**31.525**	**31.527**	**31.529**	**31.530**	**30.525**	**30.527**	**30.529**
7-3/4"	20	**31.53101**	**31.531**	**31.533**	**31.535**	—			



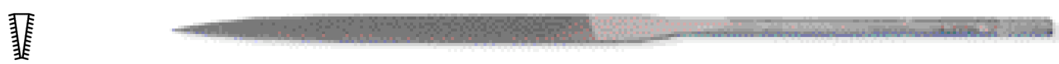
JOINT ROUND EDGE

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4	Knurled Handles Cut 6	Plastic Handles Cut 0	Plastic Handles Cut 2	Plastic Handles Cut 4
4"	10	**31.537**	**31.538**	**31.539**	—	**30.537**	**30.538**	—
5-1/2"	14	**31.540**	**31.541**	**31.542**	—	**30.540**	**30.541**	—
6-1/4"	16	**31.543**	**31.544**	**31.545**	**31.546**	**30.543**	—	**30.545**



PILLAR ROUND EDGE

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4
6-1/4"	16	**31.547**	**31.548**	**31.549**



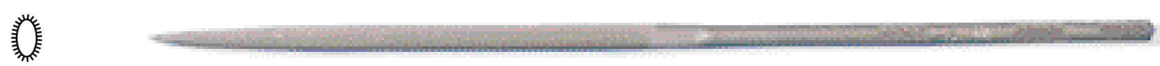
KNIFE

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4	Knurled Handles Cut 6	Plastic Handles Cut 0	Plastic Handles Cut 2	Plastic Handles Cut 4
4"	10	**31.551**	**31.552**	—	—	**30.551**	**30.552**	—
5-1/2"	14	**31.554**	**31.555**	**31.556**	—	—	—	**30.556**
6-1/4"	16	**31.558**	**31.559**	**31.561**	**31.562**	**30.558**	**30.559**	**30.561**
7-3/4"	20	**31.563**	**31.564**	**31.565**	—			



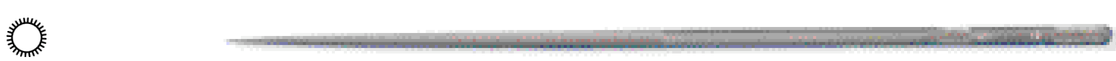
MARKING

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4	Knurled Handles Cut 6	Plastic Handles Cut 0	Plastic Handles Cut 2	Plastic Handles Cut 4
4"	10	**31.567**	**31.568**	**31.569**	—	—	**30.568**	—
5-1/2"	14	**31.570**	**31.571**	**31.572**	—	—	—	**30.572**
6-1/4"	16	**31.573**	**31.574**	**31.575**	**31.576**	**30.573**	**30.574**	—



OVAL

Overall Length (in)	(cm)	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4
6-1/4"	16	**31.578**	**31.579**	**31.580**



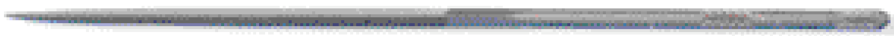
ROUND

Overall Length (in)	(cm)	Knurled Handles Cut 00	Knurled Handles Cut 0	Knurled Handles Cut 2	Knurled Handles Cut 4	Knurled Handles Cut 6	Plastic Handles Cut 0	Plastic Handles Cut 2	Plastic Handles Cut 4
4"	10	—	**31.582**	**31.583**	**31.584**	—	**30.582**	**30.583**	—
5-1/2"	14	—	**31.585**	**31.586**	**31.588**	—	**30.585**	**30.586**	**30.588**
6-1/4"	16	**31.590**	**31.591**	**31.593**	**31.595**	**31.596**	**30.591**	**30.593**	**30.595**
7-3/4"	20	**31.59701**	**31.597**	**31.598**	**31.599**	—			



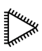
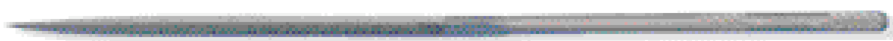

SLITTING

Overall Length (in)	(cm)	KNURLED HANDLES Cut 0	Cut 2	Cut 4	Price	Cut 6	PLASTIC HANDLES Cut 0	Cut 2	Cut 4
4"	10	**31.601**	**31.602**	—		—	—	**30.602**	—
5-1/2"	14	**31.604**	**31.605**	**31.606**		—	**30.604**	**30.605**	**30.606**
6-1/4"	16	**31.607**	**31.608**	**31.609**		**31.610**	—	—	—

SQUARE

Overall Length (in)	(cm)	KNURLED HANDLES Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	PLASTIC HANDLES Cut 0	Cut 2	Cut 4
4"	10	—	**31.612**	**31.613**	—	—	**30.612**	**30.613**	—
5-1/2"	14	—	**31.615**	**31.616**	**31.617**	—	**30.615**	**30.616**	**30.617**
6-1/4"	16	**31.619**	**31.620**	**31.622**	**31.624**	**31.625**	—	**30.622**	**30.624**
7-3/4"	20	—	**31.626**	**31.627**	**31.628**	—			

THREE SQUARE

Overall Length (in)	(cm)	KNURLED HANDLES Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	PLASTIC HANDLES Cut 0	Cut 2	Cut 4
4"	10	—	**31.630**	**31.631**	—	—	**30.630**	**30.631**	—
5-1/2"	14	—	**31.633**	**31.634**	**31.636**	—	**30.633**	**30.634**	**30.636**
6-1/4"	16	**31.637**	**31.638**	**31.640**	**31.642**	**31.643**	**30.638**	**30.640**	**30.642**
7-3/4"	20	**31.644**	**31.645**	**31.647**	**31.649**	**31.650**			

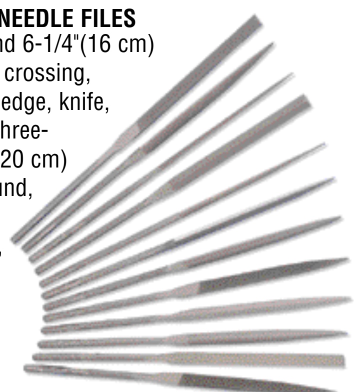



WARDING

Overall Length (in)	(cm)	KNURLED HANDLES Cut 0	Cut 2	Cut 4	Cut 6	PLASTIC HANDLES Cut 0	Cut 2	Cut 4
4"	10	**31.656**	**31.657**	**31.658**	—	**30.656**	**30.657**	—
5-1/2"	14	**31.659**	**31.660**	**31.661**	—	—	—	**30.661**
6-1/4"	16	**31.663**	**31.664**	**31.666**	**31.667**	**30.663**	**30.664**	**30.666**
7-3/4"	20	**31.668**	**31.669**	**31.670**	—			

SETS of 12 ASSORTED GROBET NEEDLE FILES

The 4" (10 cm), 5-1/2" (14 cm) and 6-1/4"(16 cm) sets consist of one each barrette, crossing, equalling, half-round, joint round edge, knife, marking, round, slitting, square, three-square, and warding. The 7-3/4" (20 cm) sets consists of two each half-round, round and three-square and one each barrette, crossing, equalling, knife, square and warding.



Overall Length (in)	(cm)	KNURLED HANDLES Cut 0	Cut 2	Cut 4	Cut 6
4"	10	**31.672**	**31.673**	—	—
5-1/2"	14	**31.675**	**31.676**	**31.677**	—
6-1/4"	16	**31.679**	**31.680**	**31.681**	**31.682**
7-3/4"	20	**31.683**	**31.684**	—	—

Overall Length (in)	(cm)	PLASTIC HANDLES Cut 0	Cut 2	Cut 4
4"	10	**30.672**	**30.673**	—
5-1/2"	14	**30.675**	**30.676**	**30.677**
6-1/4"	16	**30.679**	**30.680**	**30.681**

6-PIECE SWISS NEEDLE FILE SET WITH HANDLES

- Swiss made
- 5-1/2" (14 cm)
- Has cut portion of 2-1/2" (64 mm)
- Convenient vinyl storage pouch
- Rubber coated plastic handles
- Competitive price



Precision files, for exacting work, especially under magnification. Made of the highest quality steel, machined and finished for precision shape, accuracy and balance.

Set Includes:

One each Half Round, Round, Three-square, Square, Equalling and Warding files.

No.**31.674H**

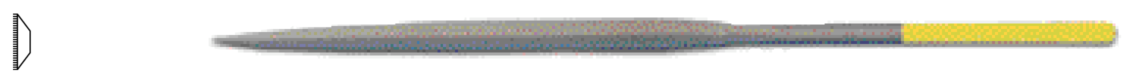
VALTITAN NEEDLE & HAND FILES

"The File with the Yellow Tang"

For platinum, stainless steel, exotic plastics, and other hard to file materials. The hardest surface known – Rockwell hardness 72HRc. Better performance on hard-to-file surfaces. Little or no clogging; a simple knock is enough to remove the chips. Highly resistant to corrosion. Longer life than standard files.

VALTITAN NEEDLE FILES

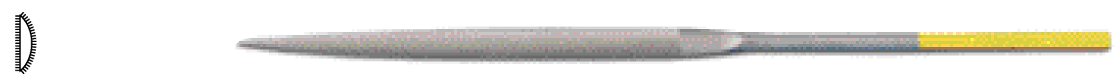
Overall length is 7" (18 cm), has cut portion of 3-1/4" (80 mm).



BARRETTE	Cut 00	Cut 0	Cut 2
	30.100V	**30.101V**	**30.102V**



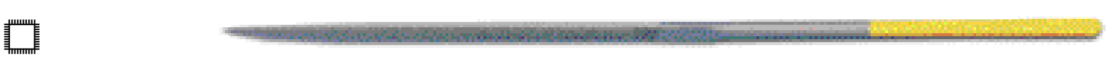
EQUALLING	Cut 00	Cut 0	Cut 2
	30.103V	**30.104V**	**30.105V**



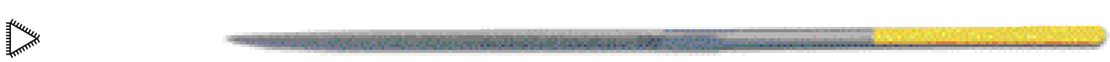
HALF-ROUND	Cut 00	Cut 0	Cut 2
	30.106V	**30.107V**	**30.108V**



ROUND	Cut 00	Cut 0	Cut 2
	30.118V	**30.119V**	**30.120V**



SQUARE	Cut 00	Cut 0	Cut 2
	30.115V	**30.116V**	**30.117V**



THREE-SQUARE	Cut 00	Cut 0	Cut 2
	30.112V	**30.113V**	**30.114V**

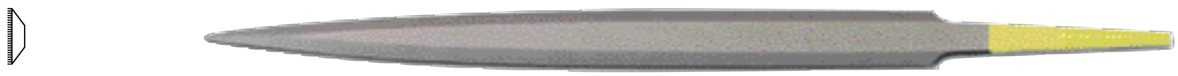


WARDING	Cut 00	Cut 0	Cut 2
	30.109V	**30.110V**	**30.111V**

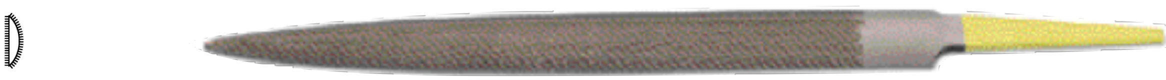
SET of SIX "YELLOW TANG" FILES (ALL BUT WARDING)

	Cut 00	Cut 0	Cut 2
	30.121V	**30.122V**	**30.123V**

VALTITAN PRECISION FILES



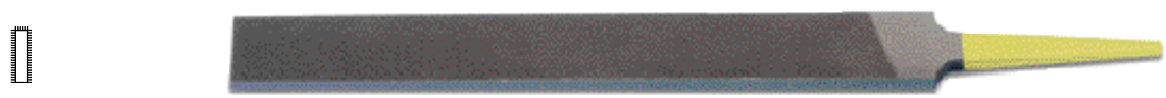
BARRETTE	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	**30.201V**	**30.202V**



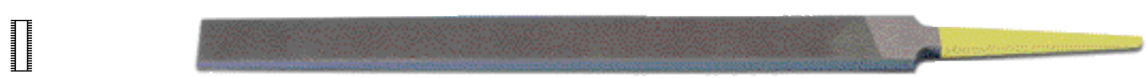
HALF ROUND	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	**30.231V**	**30.232V**
	8"	200	—	**30.235V**



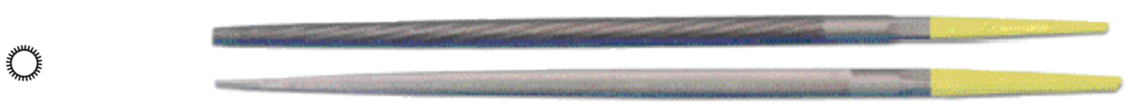
HALF ROUND SLIM	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	**30.241V**	**30.242V**



HAND	Length (in)	(mm)	Cut 00	Cut 0	Cut 2
	6"	150	**30.210V**	**30.211V**	**30.212V**
	8"	200	**30.213V**	**30.214V**	**30.215V**



PILLAR	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	**30.221V**	**30.222V**



ROUND	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	***30.251V**	**30.252V**
	8"	200	***30.254V**	**30.255V**

**Indicates blunt cut*



SQUARE	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	***30.271V**	**30.272V**

**Indicates blunt cut*



THREE-SQUARE	Length (in)	(mm)	Cut 0	Cut 2
	6"	150	**30.261V**	**30.262V**
	8"	200	**30.264V**	**30.265V**

GROBET USA

GROBET ESCAPEMENT FILES

Also known as square handled needle files, these precision files are available in most of the needle file shapes. Overall length is 5-1/2" (14 cm), length of cut is 1-9/16" to 2-9/16" (40 to 65 mm) depending upon shape.



BARRETTE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.700	31.701	31.703	31.704	31.705



BARRETTE, PARALLEL	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.708	31.709	31.710	—



CROSSING	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.714	31.715	31.716	—



EQUALLING	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.720	31.721	31.722	—



HALF-ROUND	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.724	31.725	31.727	31.728	31.729



KNIFE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.731	31.732	31.733	—



PILLAR	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.737	31.738	31.739	—



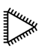

ROUND	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.742	**31.743**	**31.745**	**31.746**	**31.747**



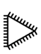

ROUNDING OFF	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	**31.750**	**31.751**	**31.752**	—




SQUARE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.754	**31.755**	**31.756**	**31.757**	**31.758**




THREE-SQUARE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.760	**31.761**	**31.762**	**31.763**	**31.764**




THREE-SQUARE SLIM AND SHORT	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	**31.766**	**31.767**	**31.768**	—

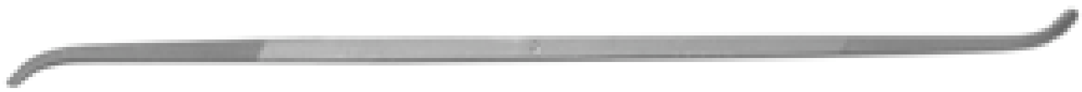
SETS of 12 ASSORTED GROBET ESCAPEMENT FILES

Contains 12 assorted files .
Pillar shape not included in sets.

Cut	No.
2	**31.770**
4	**31.771**
6	**31.772**



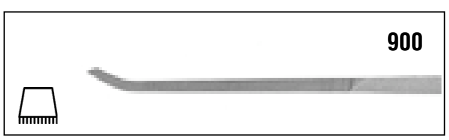


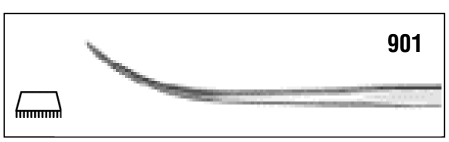


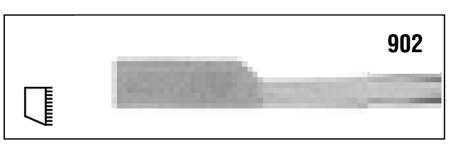
GROBET DIE SINKERS' RIFFLERS

A comprehensive selection of precision rifflers. All are double-ended and 6" (152 mm) long.

Style No.	Cut 0	Cut 2	Cut 4
900	31.835	31.836	31.837
901	31.838	31.839	31.840
902	31.842	31.843	—
905	31.846	31.847	31.848
911	31.850	31.851	31.852
912	31.854	31.855	31.856
913	31.858	31.859	31.860
914	31.862	31.863	31.864
915	31.865	31.866	31.867
916	32.017	32.018	—
917	31.869	31.870	—
918	31.872	31.873	—
919	31.876	31.877	31.878
920	31.879	31.880	—
930	31.882	31.883	—
931	31.885	31.886	31.887
940	31.888	31.889	31.890
941	31.892	31.893	31.894
942	31.896	31.897	31.898
943	32.033	32.034	—
950	31.900	—	—
951	31.903	31.904	31.905
952	31.906	31.907	31.908
953	31.910	31.911	—
954	31.914	31.915	31.916
955	31.917	31.918	31.919


900


901

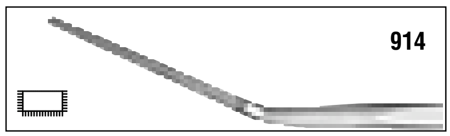

902

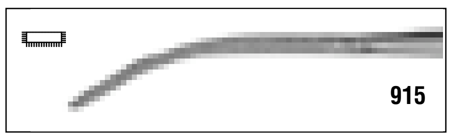

905


911

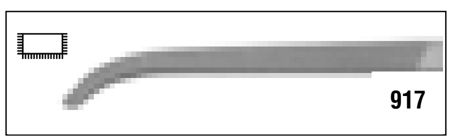

912


913

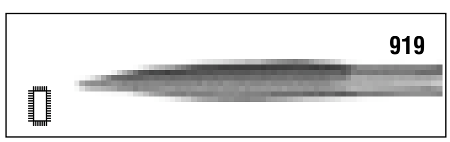

914


915


916

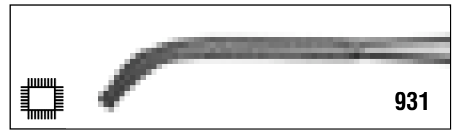

917

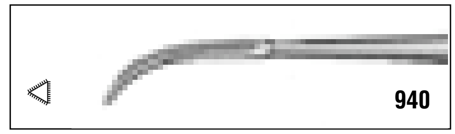

918

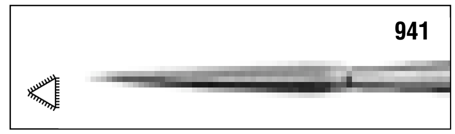

919

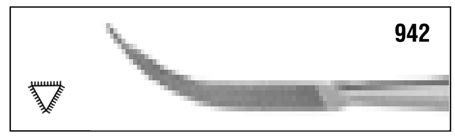

920

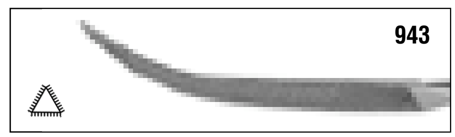

930


931

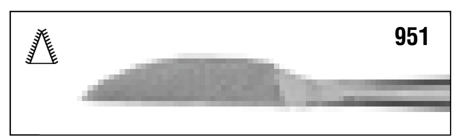

940

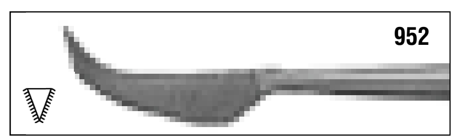

941

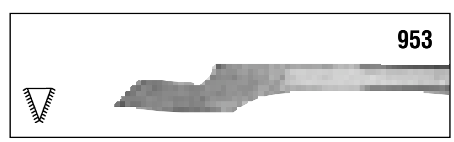

942

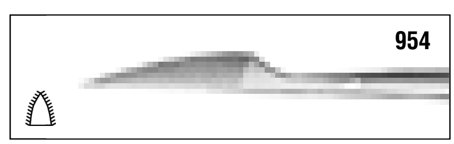

943

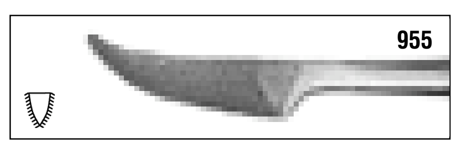

950


951

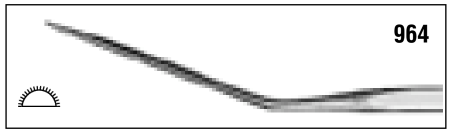

952


953

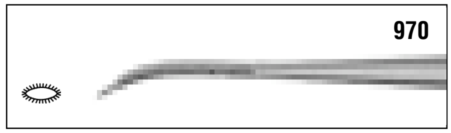

954

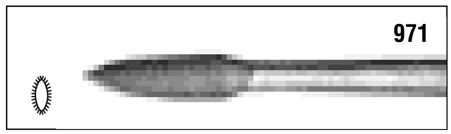

955

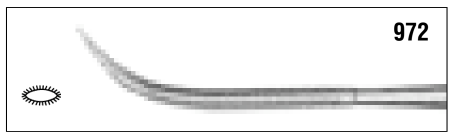
Style No.	Cut 0	Cut 2	Cut 4
956	**31.921**	**31.922**	**31.923**
957	**31.925**	**31.926**	**31.927**
958	**31.929**	**31.930**	**31.931**
961	**31.932**	**31.933**	**31.934**
962	**31.936**	**31.937**	—
963	**31.939**	**31.940**	**31.941**
964	**31.943**	**31.944**	**31.945**
965	**31.946**	**31.947**	**31.948**
970	**31.950**	**31.951**	**31.952**
971	**31.954**	**31.955**	**31.956**
972	**31.957**	**31.958**	**31.959**
973	**31.961**	**31.962**	**31.963**
974	**31.965**	**31.966**	**31.967**
975	**31.969**	**31.970**	**31.971**
980	**32.019**	**32.027**	**32.02702**
981	**31.972**	**31.973**	**31.974**
982	**31.976**	**31.977**	**31.978**
983	**31.979**	**31.980**	**31.981**
984	**31.983**	**31.984**	**31.985**
985	**31.986**	**31.987**	**31.988**
986	**31.990**	**31.991**	**31.992**
987	**31.994**	**31.995**	**31.996**
988	**31.997**	**31.998**	**31.999**
990	—	**32.002**	—
995	**32.007**	**32.008**	—
996	**32.010**	**32.011**	**32.012**


964

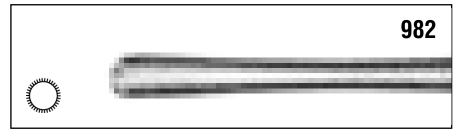

965

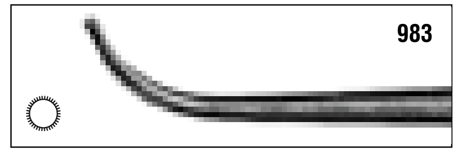

970

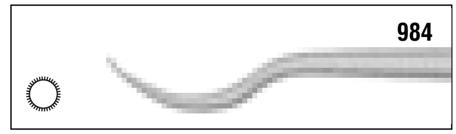

971

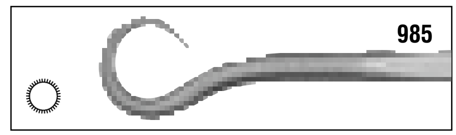

972


973

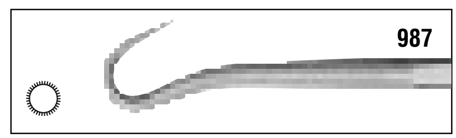

982

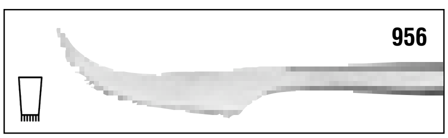

983

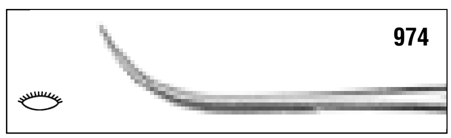

984

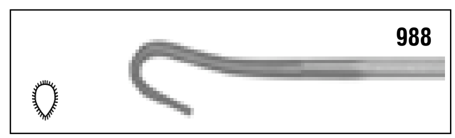

985

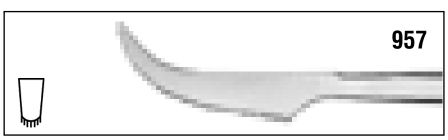

986

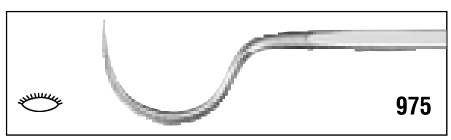

987

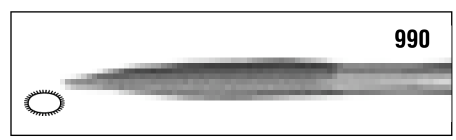

956


974

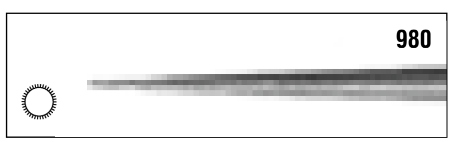

988

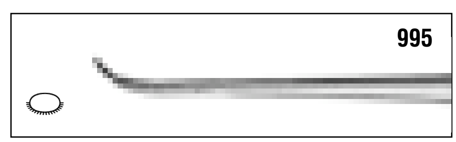

957

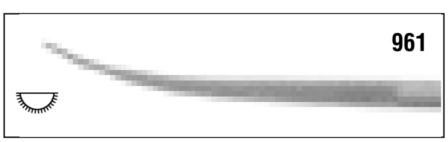

975


990

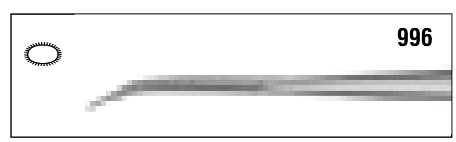

958

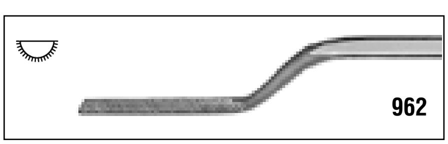

980


995


961


981


996


962


963

SETS OF DIE SINKERS' RIFFLERS

Contain the most widely used shapes from above.

Pieces In Set	Cut 0	Cut 2	Cut 4
12	**32.020**	**32.021**	**32.022**
18	—	**32.025**	**32.026**
24	—	**32.029**	—



GROBET SILVERSMITHS' RIFFLERS

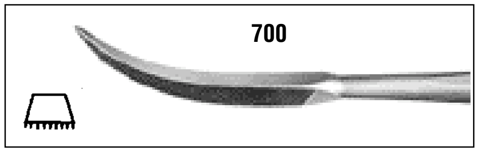
For removing metal and smoothing in tight places. All are double-ended and 7" (17.8 cm) overall.

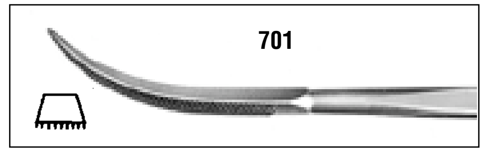
Style Nos.	Cut 0	Cut 2
700	**31.790**	**31.791**
701	**31.792**	—
710	**31.830**	**31.834**
711	**31.794**	**31.795**
712	**31.796**	**31.797**
713	**31.798**	**31.799**
731	**31.800**	**31.801**
732	**31.802**	**31.803**
741	**31.804**	**31.805**
750	**31.806**	**31.807**
761	**31.808**	**31.809**
762	**31.810**	**31.811**
763	**31.812**	**31.813**
764	**31.814**	**31.815**
771	**31.816**	**31.817**
781	**31.818**	**31.819**
782	**31.820**	**31.821**
783	**31.822**	**31.823**
790	**31.824**	**31.825**
795	**31.826**	**31.827**
796	**31.828**	**31.829**

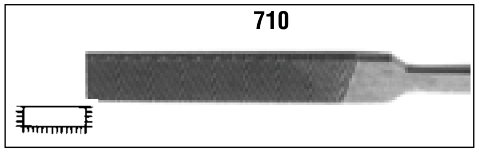
SETS of 12 ASSORTED SILVERSMITHS' RIFFLERS

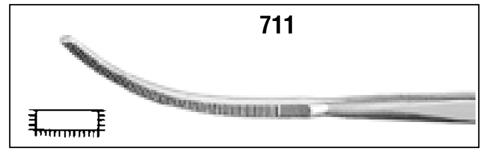
Contain 12 popular riffler shapes from above, in the cut indicated.

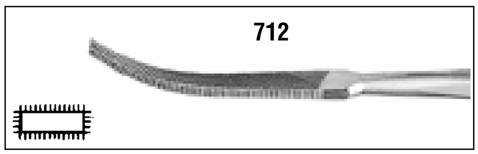
No. **31.831** Cut 0
No. **31.832** Cut 2

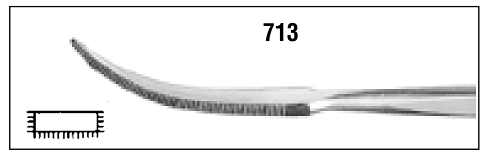


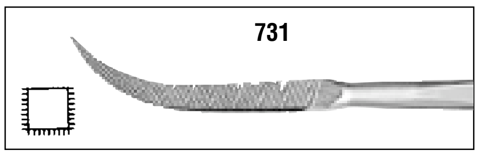


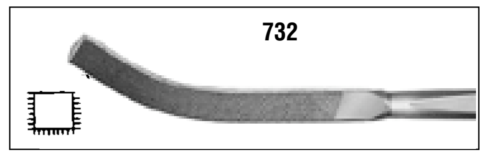


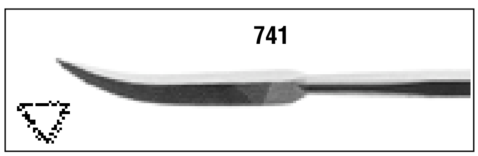


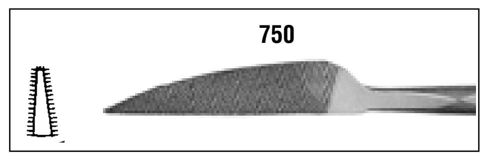


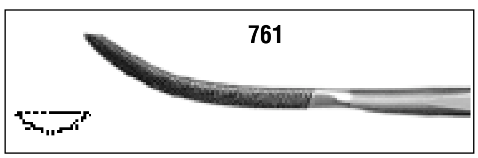


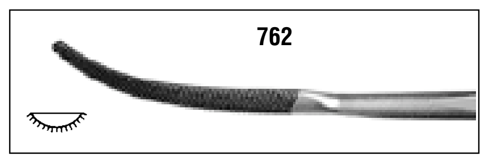


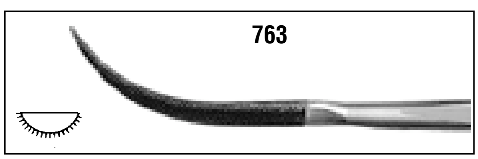


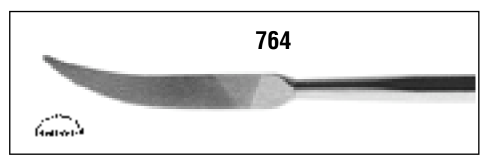


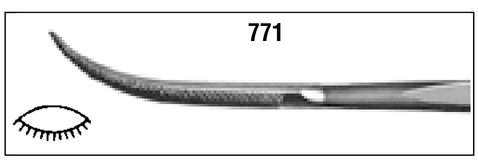


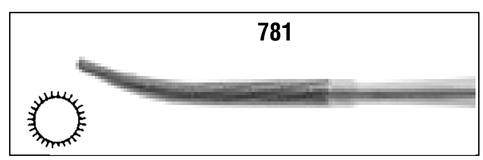


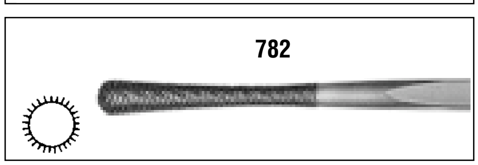


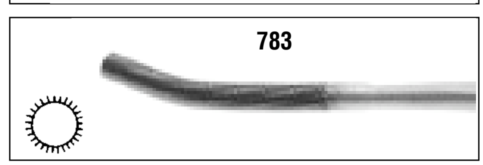


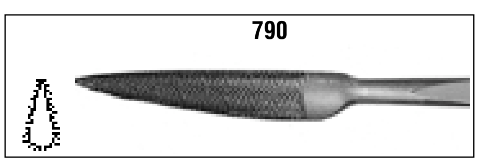


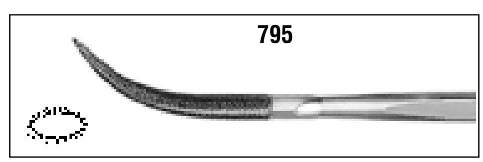


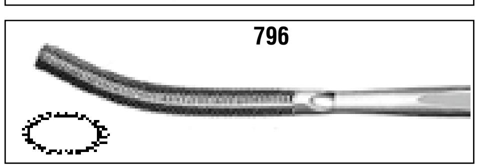






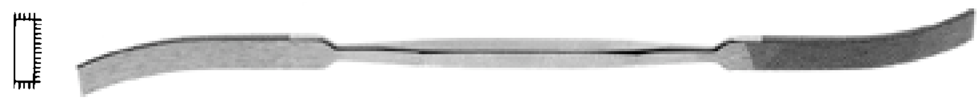






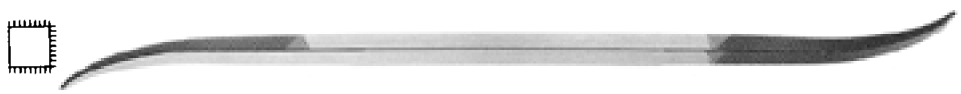
GROBET TOOL MAKERS' RIFFLERS

This group of 12" (305 mm) tool makers' rifflers rounds out the most complete line of Swiss precision rifflers available to industry anywhere. They are made of chrome-alloy steel for long, efficient life and corrosion resistance. They are contoured to make difficult-to-reach areas readily accessible and are well balanced to facilitate delicate finishing work. All supplied in cut 0. Sold individually.


32.075


32.077

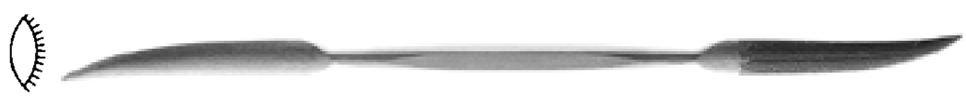

32.079


32.081


32.083


32.085


32.087


32.091


32.093

ASSORTED SET of 10 RIFFLERS
32.097

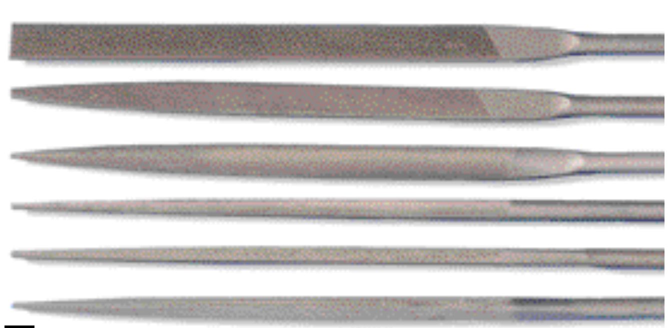
1 MASCOT® NEEDLE FILES

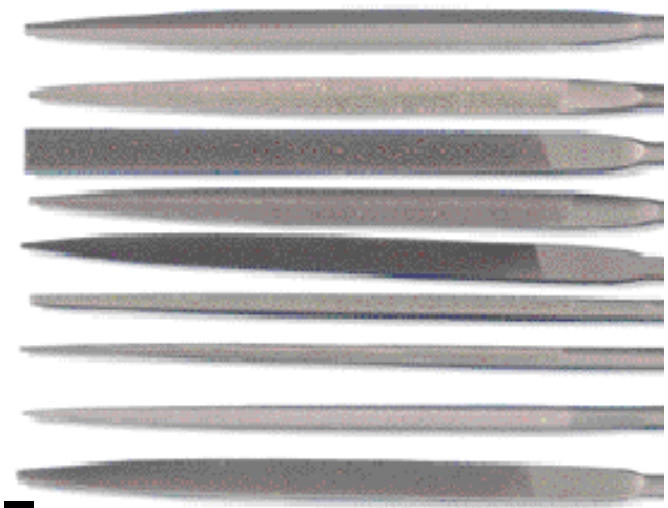
Swiss-made, single-cut files do not clog as easily as double-cut. Overall length 5-1/2" (14 cm). Smooth cut only. Sold individually.

No.	Shape
33.860	Equalling
33.861	Flat
33.862	Half-Round
33.863	Round
33.864	Square
33.865	Three-Square

SET of MASCOT® NEEDLE FILES

Set of six contains equalling, flat, half-round, round, square, and three-square styles in a plastic pouch.
No. **33.867**


1



1

1 SWISS NEEDLE FILES

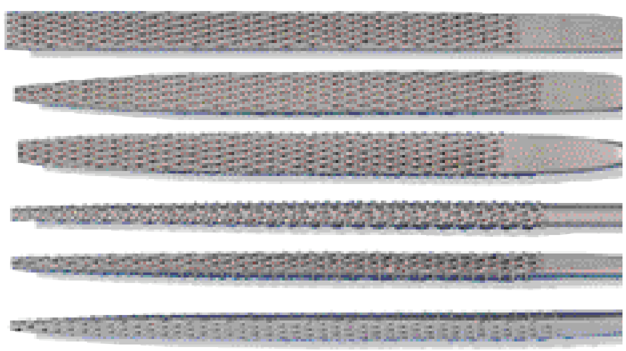
Well-made, yet economical, Swiss needle files are made of chrome alloy steel. Overall length is 5-1/2" (14 cm), with the cut portion 3" (7.6 cm). Sold by the dozen.

Shape	Medium	Fine
Barrette	**33.880**	**33.881**
Crossing	**33.882**	**33.883**
Equalling	**33.884**	**33.885**
Half-Round	**33.886**	**33.887**
Knife	**33.890**	**33.891**
Square	**33.898**	—
Round	**33.894**	**33.895**
Three-Square	**33.900**	**33.901**
Warding	**33.902**	**33.903**

SETS of SWISS NEEDLE FILES

Assorted shapes in a plastic pouch.

Cut	Set of 6	Set of 12
Medium	**33.906**	**33.908**
Fine	**33.907**	**33.909**



2

2 SWISS WAX FILES

Excellent for shaping waxes and other materials, such as wood and plastic. Wide-tooth style does not clog as easily as conventional file. Overall length 5-1/2" (14 cm).

No.	Shape	No.	Shape
33.915	Equalling	**33.918**	Round
33.916	Flat	**33.919**	Square
33.917	Half-Round	**33.920**	Three-Square

SET of SWISS WAX FILES

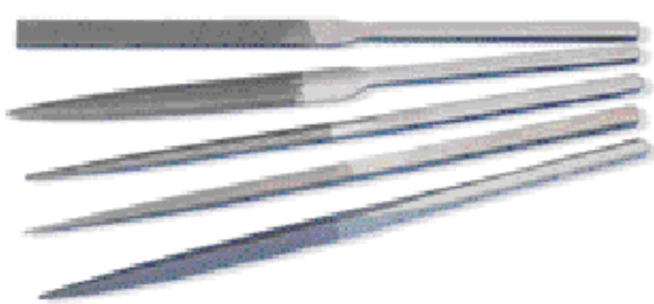
All six shapes listed above in a plastic pouch.
No. **33.922**



3

3 MASCOT® 6 PC UTILITY FILE SET

This handy utility set consists of six American Pattern file shapes: square, half-round, three-square, round, flat, and warding. File cut lengths are approximately 4" (10 cm) with an overall length of 7" (17 cm). Each file has a smooth wooden handle and the set comes in a hanging pouch.
No. **32.510**



4

4 HABILIS™ FILES

Habilis files offer the craftsman something different; precision files designed for those “in-between” jobs, too big for needle files and requiring finer control than a larger, heavier file can deliver. The distinctive design includes a built-in handle, so there’s no separate handle to buy and they’re shaped for easy handling and balanced for efficient cutting. These strong, durable files are ideal for a variety of uses. Length of cut is 4" (10 cm) and the overall length is 8-1/2" (22 cm). Sold individually or in sets as listed.

	Width		Thickness			
Shape	(in)	(mm)	(in)	(mm)	Cut 00	Cut 1
Hand	3/8"	9.5	1/8"	3.2	**33.820**	**33.821**
Half-Round	15/32"	11.9	9/64"	3.6	**33.822**	**33.823**
Round	1/4"	6.4	—	—	**33.824**	**33.825**
Square	1/4"	6.4	—	—	**33.826**	**33.827**
Three-Square	3/8"	9.5	—	—	**33.828**	**33.829**

SET of HABILIS™ FILES

Five files, one of each shape, in sturdy vinyl pouch.
No. **33.831** Cut 00
No. **33.832** Cut 1

1 HABILIS™ RASPS

For cutting wood, fiberglass, plastics or soft metals. The comfortable-to-use, conveniently-sized Habilis style is now available in five shapes. The built-in handle and balanced feel will help you work faster, with better control. Offered individually in the most popular shapes or as a set of all five.

No. **33.834** Hand
No. **33.835** Half-Round
No. **33.836** Round
No. **33.837** Square
No. **33.838** Three-Square

SET of FIVE HABILIS™ RASPS
No. **33.840**


1

2 HABILIS™ RIFFLERS

Ideal for filing unusually-shaped or hard-to-reach areas.The built-in handles can be used as is, or the specially designed plastic handle (No. 33.848) can be used when a heavier grip is required. Supplied in six individual shapes, five curved and one straight, or as a set of all six plus the plastic handle.

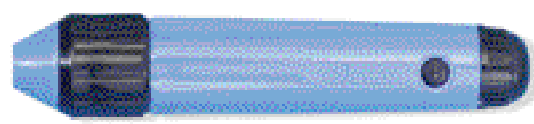
No. **33.842** Hand
No. **33.843** Half-Round
No. **33.844** Round
No. **33.845** Square
No. **33.846** Three-Square
No. **33.847** Knife

SET of SIX with HANDLE
No. **33.850**


2

3 HANDLE for HABILIS RIFFLERS

No. **33.848**

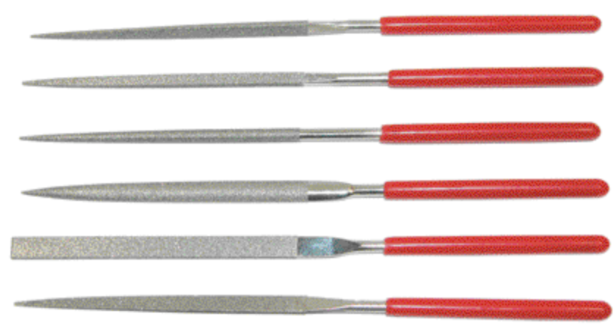

3

4 ECONO DIAMOND NEEDLE FILES

Engineered to deliver performance unequaled by any other file.
For use on ultra-hard materials, metals, ceramics, and glass.
Excellent material removal.
Unique process which bonds the 2-1/2" long diamond surface at an affordable price.
Available in medium grit (120/140) Overall length is 5-1/2" (14 cm).
Sold individually or in sets as listed.

No. **34.011** Barrette
No. **34.012** Equalling
No. **34.013** Half-Round
No. **34.014** Round
No. **34.015** Square
No. **34.016** Three-Square

SET of Five in VINYL POUCH
Contains 5 assorted files from the list above.
No. **34.020**

4


5 DIAMOND NEEDLE FILES

Engineered to deliver performance unequaled by any other file, for use on ultra-hard materials. Carbide, hardened steel, exotic metals, ceramics, and glass are no match for these precision files. Excellent material removal is the result of a unique process which bonds the 2-1/2" (64 mm) long diamond surface. Available in fine grit, medium grit and coarse grit. Sets of Overall length is 5-1/2" (14 cm). Sold individually or in sets as listed.

	Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit(80/100)
Barrette	**33.958**	**33.980**	**34.004**
Crossing	**33.959**	**33.984**	—
Equalling	**33.961**	**33.971**	**34.005**
Half-Round	**33.962**	**33.972**	**34.006**
Round	**33.963**	**33.973**	**34.007**
Square	**33.964**	**33.974**	**34.008**
Three-Square	**33.965**	**33.975**	**34.009**
Crochet	**33.966**	**33.976**	—
Warding	**33.967**	**33.977**	—
Knife	**33.968**	**33.978**	—
Pippin	**33.969**	—	—

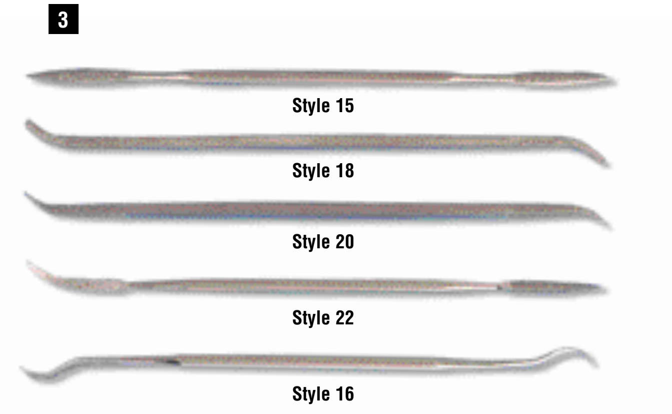
SET of FIVE in VINYL POUCH
Contains one each of equalling, half-round, round, square and three-square.
No. **33.960** Fine grit
No. **33.970** Medium grit

SET of TEN in VINYL POUCH
Contains 10 assorted files listed above.
No. **33.950** Fine grit

5







1 DIAMOND ESCAPEMENT FILES

These square handle files have an overall length of 5-1/2" (14 cm). Their diamond surface is 1-9/16" to 2-9/16" (40 to 65 mm), according to shape. Used in fine watchmaking, in finishing fine castings, and other delicate work. 126 grit. Sold individually.

No. **33.951** Half-Round
No. **33.952** Crossing
No. **33.953** Three-Square
No. **33.954** Equalling
No. **33.955** Square
No. **33.956** Round

SET of SIX in VINYL POUCH
Contains one of each 6 files listed above.
No. **33.957**

2 HABILIS™ DIAMOND FILES

Excellent for filing large areas of different materials as well as hard plastics, fiberglass, graphite, and epoxy. Can also be used for marble shaping applications. In spite of the heavy-duty applications, these diamond files have a very high resistance to wear. Overall length is 8-1/2" (22 cm), and diamond surface is 4" (10 cm). 126 grit. Sold individually.

No. **33.873** Three-Square
No. **33.874** Square
No. **33.875** Round
No. **33.876** Half-Round
No. **33.877** Hand

SET of FIVE in VINYL POUCH
Contains one of each 5 files listed above.
No. **33.852**

3 DIAMOND RIFFLERS

For easy access to hard-to-reach places. Double-ended with diamond coating on both ends. Overall length is 6" (15 cm). 126 grit. Sold individually.

No. **33.991** Style 15
No. **33.992** Style 18
No. **33.993** Style 20
No. **33.994** Style 22
No. **33.995** Style 16

SET of FIVE in VINYL POUCH
Contains one of each 5 files listed above.
No. **33.996**

4 GROBET USA™ DIAMOND HAND/MACHINE FILES

These tapered files are used in filing inside slots and grooves, where access with parallel files is impossible. They can be used by hand or in any reciprocating machine, and were specially designed for the aluminum extruders industry as well as the plastic mold industry. The diamond coating is 5/8" (15.9 mm). The shank is 1/8". Grits and overall length as shown.

		Head Width		Taper		Overall Length	
No.	Grit	(in)	(mm)	(in)	(mm)	(in)	(mm)
33.929	325	1/8"	3.2	1/16"	1.6	2-1/4"	57
33.930	200	1/8"	3.2	1/16"	1.6	2-1/4"	57
33.931	600	1/8"	3.2	1/16"	1.6	2-7/8"	73
33.932	325	1/8"	3.2	1/16"	1.6	2-7/8"	73
33.933	200	1/8"	3.2	1/16"	1.6	2-7/8"	73
33.934	600	1/4"	6.2	3/64"	1.2	2-1/4"	57
33.935	325	1/4"	6.2	3/64"	1.2	2-1/4"	57
33.936	600	1/4"	6.2	3/64"	1.2	2-7/8"	73
33.937	325	1/4"	6.2	3/64"	1.2	2-7/8"	73
33.938	200	1/4"	6.2	3/64"	1.2	2-7/8"	73

SET of TEN
Contains one of each 10 files listed above.
No. **33.939**

FILES FOR STRING INSTRUMENT

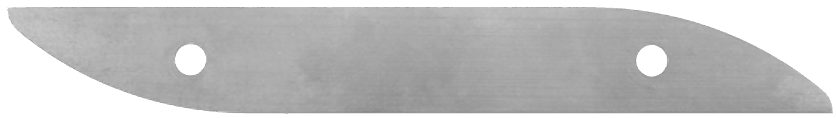
SWISS FRET FILE
No. **30.950** 4.5", Radius 1mm, Fine
No. **30.951** 4.5", Radius 2mm, Medium
No. **30.952** 4.5", Radius 3mm, Large



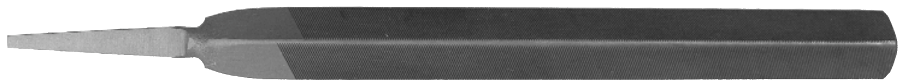
SWISS DIAMOND FRET FILE
No. **30.955** 4.5", Radius 2.5mm, Grit 46
No. **30.956** 4.5", Radius 2.5mm, Grit 76



SWISS DIAMOND FRET FILE
No. **30.957** 9", Radius 3mm, Grit 46
No. **30.958** 9", Radius 3mm, Grit 76



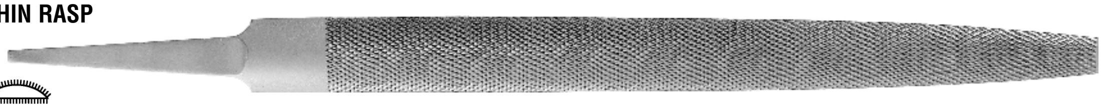
SWISS SINGLE CUT BARRETTE FILE
No. **30.960** 5", Cut 1



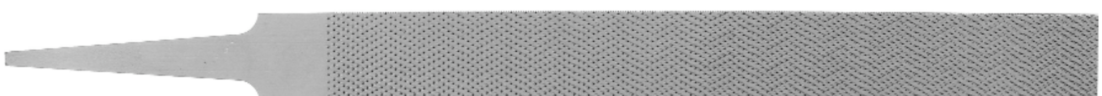
SWISS THREE SQUARE FRET FILE
No. **30.961** 18 cm, Cut 3



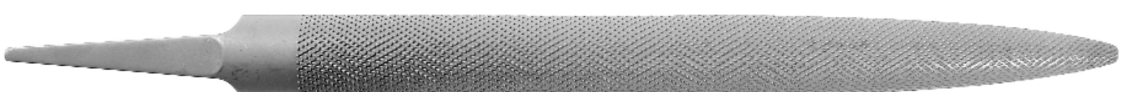
SWISS HALF ROUND SLIM THIN RASP
No. **30.965** 10", Cut 5
No. **30.966** 10", Cut 6



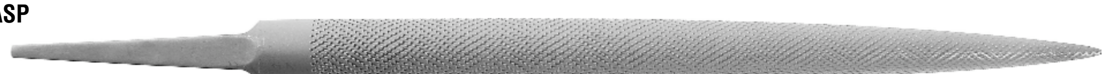
SWISS HAND RASP
No. **30.968** 8", Cut 6
No. **30.969** 6", Cut 7
No. **30.970** 10", Cut 7



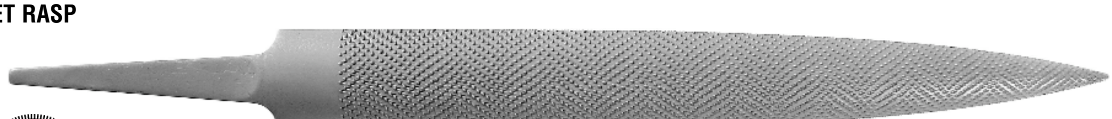
SWISS HALFROUND RASP
No. **30.971** 8", Cut 6
No. **30.972** 6", Cut 7
No. **30.973** 10", Cut 7



SWISS HALFROUND SLIM RASP
No. **30.975** 8", Cut 6
No. **30.976** 6", Cut 7



SWISS HALFROUND CABINET RASP
No. **30.980** 8", Cut 6
No. **30.981** 10", Cut 6
No. **30.982** 6", Cut 7
No. **30.983** 10", Cut 7



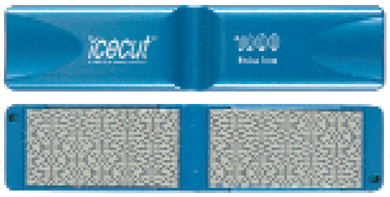
SWISS ROUND RASP
No. **30.985** 6", Cut 7
No. **30.986** 8", Cut 6
No. **30.987** 10", Cut 6



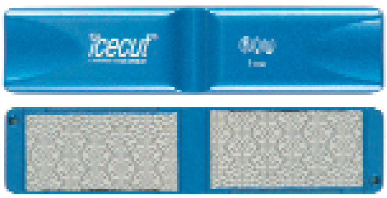
Ski files **THE NEW TUNING TECHNOLOGY**

DIAMOND PLATES

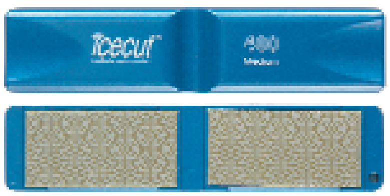
New diamond plates with an ergonomic shape ensuring an improved comfort use. The high quality diamond combined with a brand new design, split on 2 areas, give the user a better work flexibility and provide an optimal contact with the edge. The new Icecut diamond plates guarantee a smooth finish and precise work in all circumstances!



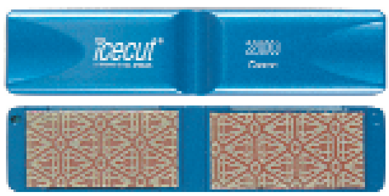
No.	Grit		Length (in)	(mm)
32.187	1000	Extra Fine	4"	100



No.	Grit		Length (in)	(mm)
32.188	600	Fine	4"	100



No.	Grit		Length (in)	(mm)
32.189	400	Medium	4"	100



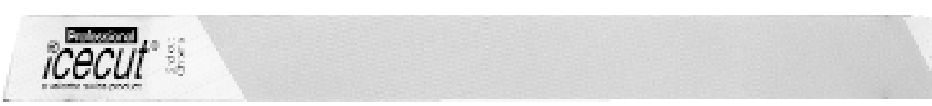
No.	Grit		Length (in)	(mm)
32.190	200	Coarse	4"	100

PROFESSIONAL

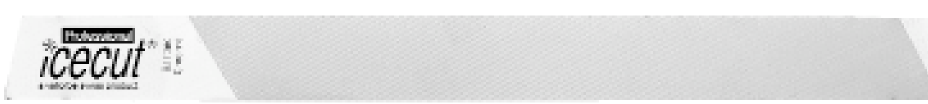
Due to their high level of precision and performance, these files are considered as a global reference by the world's most renowned professional skimen. They are chosen by the most demanding users for their smooth and consistent bite. Chrome-plated or non-chrome, it's your choice!



Flash Chrome-Plated	Non-Chrome-plated	Grit	Length (in)	(mm)	(CM)
32.135	**32.13501**	600 Fine	6"	150	20



Flash Chrome-Plated	Non-Chrome-plated	Grit	Length (in)	(mm)	(CM)
32.136	**32.13601**	400 Medium	8"	200	16

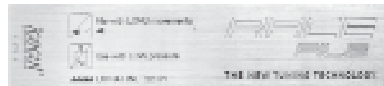
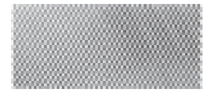


Flash Chrome-Plated	Non-Chrome-plated	Grit	Length (in)	(mm)	(CM)
32.137	**32.13701**	200 Coarse	8"	200	13

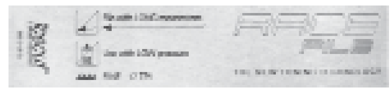
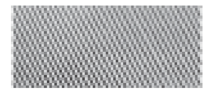
RACE FILE

Manufactured in a special steel and issue from the last technology of cut, this file presents three major advantages compared with a traditional ski file: it sharpens faster, enjoys broadly/widely increased life time and gives to the edges a powerful sharp side.
The best file for the advanced sportsman, the workshop of preparation and for the professional skier.

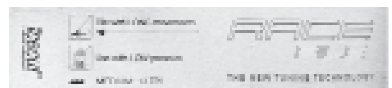
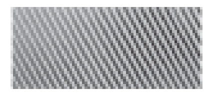
		Length		
No.	Grit	(in)	(mm)	TPI
32.115	1000 Extra Fine	4"	100	22

		Length		
No.	Grit	(in)	(mm)	TPI
32.116	600 Fine	4"	100	17

		Length		
No.	Grit	(in)	(mm)	TPI
32.117	400 Medium	4"	100	13

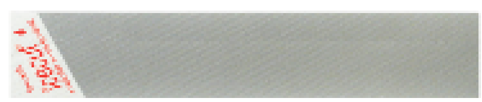



CARVING

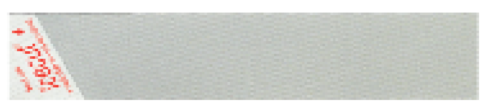
FLASH CHROME-PLATED ***NON CHROME-PLATED**

Identical to the Professional range, but 5" / 120 mm in size; these files are particularly well suited for tuning SL and GS skis and snowboards.

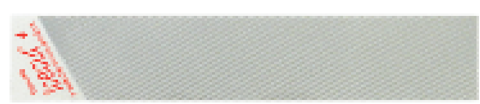
Flash		Length		
Chrome-Plated	Grit	(in)	(mm)	(CM)
32.138	600 Fine	5"	120	20



Flash		Length		
Chrome-Plated	Grit	(in)	(mm)	(CM)
32.139	400 Medium	5"	120	16



Flash		Length		
Chrome-Plated	Grit	(in)	(mm)	(CM)
32.140	200 Coarse	5"	120	13



Non		Length		
Chrome-plated	Grit	(in)	(mm)	(CM)
32.14001	200 Coarse	5"	120	13



FILE HANDLE SIZE RECOMMENDED

SWISS PRECISION FILES

File Length	4"	6"	8"	10"	12"	14"
Type/Shape						
Barrette	3	4	5	–	–	–
Checkering	–	4	–	–	–	–
Crochet	3	4	5	–	–	–
Crossing	2	4	5	–	–	–
Equalling	2	3	4	–	–	–
Half-Round	3	4	5	6	–	–
Hand	3	4	5	6	7	–
Knife	3	4	5	6	7	7
Pillar	3	4	4	6	6	–
Pippin	3	4	5	–	–	–
Round	1	3	4	5	–	–
Round Parallel: 3/16" (4.8 mm)	–	2	3	–	–	–
Round Parallel: 1/4" (6.4 mm)	–	2	3	–	–	–
Round Parallel: 1/8" (3.2 mm)	1	1	–	–	–	–
Round Parallel: 5/32" (4.0 mm)	1	1	–	–	–	–
Round Parallel: 3/8" (9.5 mm)	–	–	4	–	–	–
Slitting	2	4	–	–	–	–
Square	2	3	4	5	6	–
Three-Square	2	4	4	5	6	–
Warding	2	4	5	6	7	–

AMERICAN PATTERN FILES

File Length	4"	5"	6"	7"	8"	10"	12"	14"	16"
Type/Shape									
Aluminum Type A Flat	–	–	4	–	5	5	6	–	–
Aluminum Type A, Half-Round	–	–	4	–	5	6	7	–	–
Cabinet Rasp, Half-Round	–	–	–	–	5	5/6	6	–	–
Cant Saw	–	–	4	–	5	5	–	–	–
Chain Saw Round 5/32" (4.0 mm), 3/16" (4.8 mm) dia.	–	–	–	–	2	–	–	–	–
Chain Saw Rnd 13/64" (5.2 mm) dia.	–	–	–	–	3	–	–	–	–
Cross Cut	–	–	–	–	5	6	–	–	–
Flat	3	–	4	–	5	6	6	7	8
Half- Round	3	–	4	–	5	6	7	7	7
Hand	–	–	4	–	5	5/6	7	–	–
High Speed Chipbreaker	–	–	–	–	5	6	7	–	–
Knife	3	–	4	–	4/5	5/6	–	–	–
Long Angle Lathe	–	–	–	–	–	5/6	6	7/8	–
Mill	3	–	4	–	5	5/6	6/7	7	8
Pillar	–	–	4	–	5	–	–	–	–
Pipe-Liner	–	–	–	–	–	–	–	7	–
Round	1	–	3	–	4	4	5	6	–
Square	1/2	–	3/4	–	4	4/5	5/6	6/7	–
Taper, Regular	–	–	4	4	5	5/6	–	–	–
Taper, Slim	1	2	3	3/4	4	5	–	–	–
Taper, Extra Slim	1	2	2	2/3	3	–	–	–	–
Taper, Double Extra Slim	–	1	1	–	3	–	–	–	–
Three Square	–	–	4	–	5	6	–	–	–
Warding	3	–	4	–	5	5	–	–	–
Milled Curved Tooth, Flat	–	–	–	–	5	5	6	7	–
Milled Curved Tooth, Flat Utility	–	–	–	–	5	6	–	–	–
Half Round Solid	–	–	–	–	5	6	7	–	–

FILE HANDLES

1 BLUE PLASTIC FILE HANDLES/METAL GRIPPING INSERT

Unbreakable plastic, with textured surface for a non-slip grip. Specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage. Tang-gripping insert is tempered metal, with two threaded sections of different diameters. This assures proper alignment and positive hold for files, and also allows handle to be reused. Simply unscrew the file in use and insert a new one. Refer to separate charts on page 38 for Swiss Precision, American Pattern files.

No.	File Handle Size	No.	File Handle Size
37.781	1	**37.785**	5
37.782	2	**37.786**	6
37.783	3	**37.787**	7
37.784	4	**37.788**	8

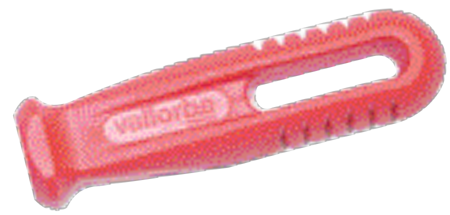
1


2


2 BLUE PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage near work bench. Has plastic gripping insert.

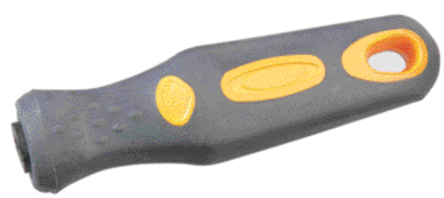
No.	ID (mm)
37.815	4 mm
37.816	6 mm
37.817	8 mm
37.818	10 mm


3

3 PLASTIC FILE HANDLES for GROBET SWISS AMERICAN PATTERN FILES

Unbreakable plastic, bright handles with textured surface for a non-slip grip. Ergonomically designed to fit the hand for comfort.

	File Length		File Size	
No.	(in)	(mm)	(in)	(mm)
37.810S	3-1/2"	90	4"	100
37.811S	3-1/2"	90	4"-6"	100-150
37.812S	4-1/4"	110	6"-12"	150-300
37.813S	4-1/4"	110	12"-14"	300-350

4


4 BLACK PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage near work bench. Has five plastic gripping inserts.
No. **37.854**

5

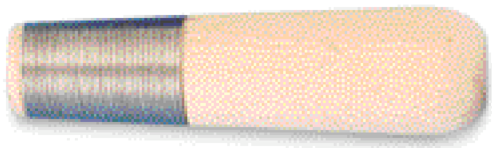

5 RED PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Has five plastic gripping inserts.
No. **37.855**

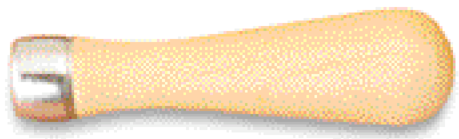
6

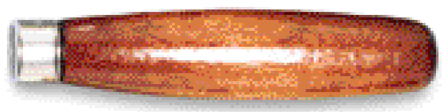

6 ADJUSTABLE FLEXIBLE FILE HOLDER

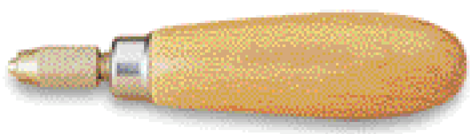
Holder can easily be adjusted for curving file outward or inward. Holder can be used with either 12" or 14" files.
No. **37.840**

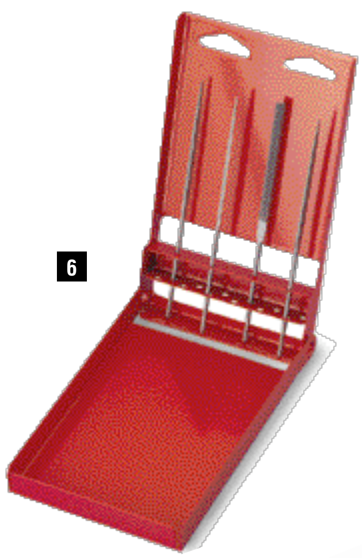
1


2

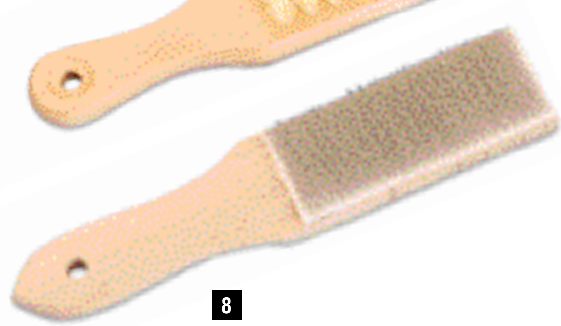

3


4


5


6


7



8

1 WOOD FILE HANDLES
With natural finish. Wound wire ferrule provides extra strength to prevent splitting. Select handle to fit files 2" to 20" (5.1 to 51 cm).
No. **37.791** 2"-4" (5-10 cm)
No. **37.792** 4"-6" (10-15 cm)
No. **37.793** 6"-10" (15-25 cm)
No. **37.794** 10"-14" (25-35 cm)
No. **37.795** 14"-16" (35-40 cm)
No. **37.796** 16"-20" (40-50 cm)

2 LUTZ WOOD FILE HANDLES
Sturdy, force-fit type of handle.
No. **37.801** 3"-6" (7.5-15 cm)
No. **37.802** 6"-8" (15-20 cm)
No. **37.803** 8"-12" (20-30 cm)
No. **37.804** 14"-16" (35-40 cm)

3 SKROO-ZON WOOD FILE HANDLES
Steel die inside wood handle cuts its own thread on file tang.
No. **37.820** For 6" (152 mm) files only.

4 FILE and BURNISHER HANDLE
Hardwood handle with metal ferrule. Overall length 3-3/4" (95.3 mm), 1/2" (12.7 mm) diameter.
No. **37.822**

5 NEEDLE FILE HANDLE
Precision chuck in smooth wooden handle holds 5-1/2" (14 cm) and 6-1/4" (16 cm) needle files securely.
No. **37.830**

6 NEEDLE FILE STAND
Attractive metal stand conveniently holds and displays up to 12 needle files in 4" (10 cm), 5-1/2" (14 cm), or 6-1/4" (16 cm) lengths. Free-standing on workbench, hanging on a peg, or snapped closed for carrying, this stand keeps your frequently used files visible and handy at all times. (Files not included.)
No. **31.685**

7 FILE CLEANER with BRUSH
Steel wire bristles mounted on wood handle with handy brush on reverse side. Overall length 10" (25 cm).
No. **33.979**

8 FILE CLEANER
Steel wire bristles mounted on wood handle, for removing particles clogging teeth of file. Overall length 10" (25 cm).
No. **33.981**

AURIFORM FILE A die sinkers' file having a cross section that combines 1/2 of a pippin file with 1/2 of a crossing file.

BACK In a half round, barrette, cant or files of similar cross section this is the convex side.

BARRETTE FILE Cut on wide flat face and safe on sides and back. Tapered in width and thickness.

BLANK A steel forging from which a file is made. The basic shape of a file before teeth are cut or etched.

CANT FILE Triangular in cross section with one side wider than the other two. Cut on three sides and tapered.

CHECKERING FILE Rectangular in cross section and parallel in width and thickness. Teeth cut at 90° angle with edge. Safe on edges.

CHISEL CUT A method of cutting teeth into the surface of an annealed file blank by striking it with a series of repeated blows as the blank is moved beneath a chisel at a uniform speed. In the cutting operation, the chisel is placed obliquely to the length and is inclined to the surface of the file. This is done either by hand or machine. Generally used to produce files of No. 2 cut and coarser.

CROCHET FILE Rectangular in cross section with rounded edges. Cut on both faces and edges. Tapered in length and slightly tapered in thickness.

CROSSING FILE Oval cross section with same radius as half round files on one side and other side curved to a larger radius. Cut on both sides. Tapered in width and thickness.

CUT The number of teeth per inch, the degree of coarseness of a file's teeth, from No. 00 to No. 8 in Swiss precision files. Also used to describe the type of file such as single cut or double cut, etc.

DIE MAKERS' RIFFLERS Various cross sectional shapes. Teeth cut on a small area of each end leaving a long middle portion as a handle. The cut ends are of various designs. Length is overall. Originally designed and hand forged by die makers for their specific purposes now a generic term for this particular group of rifflers.

DIE SINKERS' FILES A group of files of various cross sections designed for use by die sinkers, tool makers and locksmiths. Tapered in width.

DIE SINKERS' RIFFLERS See Die Makers' Rifflers. This group of rifflers has smaller cross sectional shapes.

DOUBLE CUT The arrangement of file teeth formed by two series of cuts. The first is the overcut which is followed by the upcut at an angle to the overcut.

EDGE The narrow cross section or side of a file.

EQUALLING FILE Thin rectangular cross section, parallel in width and thickness and cut on both faces and edges.

ESCAPEMENT FILE Also called Square Handled Files. A group of files of various cross sectioned shapes with a length of cut varying from 3/4 to 2-1/2" and long square handles. Widely used by jewelers, watch makers, die makers, and fine mechanics.

ETCHED CUT A method of cutting teeth into the surface of a file blank by drawing an etching tool, under sustained pressure, obliquely across an annealed file blank in a series of cuts. This may be done either by hand or machine. This method of cutting is used where it is necessary to retain the true cross section of a file. Generally used to manufacture files finer than a No. 2 cut.

FACE The working surface of a file upon which teeth are cut.

FILING BLOCK A block of wood, soft metal or other material used to protect the material being filed from damage from the jaws of a vise or other holding device. It may contain a series of grooves to hold work securely.

FLAT FILE Also called a Warding File. A form of escapement or square handled needle file. Parallel in thickness. Cut on four sides, tapered in width.

HANDLE A wood or plastic piece that is placed over that tang of a file to protect the hand of the user.

HALF ROUND FILE A cross section that is flat on one side and has a radius (not half circle) on the other side. Cut on both sides. Width and thickness taper.

HALF ROUND SLIM FILE Also called Ring Files. Same as half round except thinner in width.

HEEL The end of the file at a location where the body ends and the taper leading into the tang begins. Also called the shoulder.

JOINT FILE, ROUND EDGE Rectangular cross section with rounded edges. Cut on edges only. Parallel in width and thickness.

JOINT FILE, SQUARE EDGE Rectangular cross section. Cut on edges only. Parallel in thickness and width.

KNIFE FILE Knife shaped, cross section that is tapered in width and thickness. Edge has same thickness from point to shoulder.

LENGTH OF CUT The length of a file measured between the shoulder or heel and the point.

LOZENGE FILE Diamond shaped cross section parallel in width and thickness.

NEEDLE FILE, SQUARE HANDLED Also called an Escapement File. A group of files of various cross sectional shapes with a length of cut varying between 3/4 and 2-1/2" and long square handle.

NEEDLE FILE, ROUND HANDLED A group of files of various cross sections with a knurled round handle. Knurling gives the file a positive, non-slip grip for precision filing.

OVAL FILE An oval cross section tapering in width and thickness.

OVERCUT The first of a series of cuts in a double cut file. Its function is to act as a chip breaker. The second or upcut is made over this cut.

PARALLEL ROUND FILE A round cross section parallel in width.

PILLAR FILE A rectangular cross section with thickness greater relative to width, than in other types. Cut on face or flat sides only. Parallel in width, tapered in thickness. Also demi-narrow, narrow and extra narrow widths.

PIN OR PINNING The tendency of small particles of materials to file or clog the gullets between the teeth of a file. When the teeth become clogged the file causes scratches on the work. When this occurs, the file is pinned.

PIPPIN FILE A section that combines the cross section of a round file with that of an equalling file. Tapered in thickness and width.

POINT The front end of a file as contrasted with the tang end.

POINTED BACK BARRETTE FILE A triangular cross section with one side wider than the other two sides but on wide or face side only tapered in width and length.

RASP CUT A cut used on wood rifflers that is made by a punch raising a series of individual cutting teeth.

RIFFLERS From the German riefeln, to channel, chaufer, flute or groove. Originally used and hand forged by die sinkers, die makers, silversmiths and other skilled artisans in shapes and cross sections appropriate to their work. Teeth are cut on small areas on each end that can be shaped like everything from trowels to button hooks. A long middle portion serves as a handle.

RING FILE Also called a Half Round Slim File.

ROUND FILE Round in cross section tapered in width.

ROUNDING OFF FILE An escapement or square handle needle file half round in cross section. Cut on flat side. Parallel in width.

SAFE The side or edge of a file that has no teeth cut in it so as not to mar a work surface that does not require filing.

SCREW HEAD FILE A narrow diamond shaped section with short bevels to form sharp edges. Cut on beveled edges, safe on flat sides. Parallel in width and thickness.

SECTION The cross section or end view of a file if it were cut squarely at the place of greatest width and thickness from the tang.

SILVERSMITH'S RIFFLERS A group of various cross sectioned shapes originally designed for use by silversmiths. Teeth are cut on small areas of each and leaving a long middle portion as a handle. The cut ends are of varied designs.

SINGLE CUT The tooth formed on a file by a single series of cuts.

SLITTING FILE A flat diamond shaped cross section. Cut on all sides. Parallel in width and thickness.

SQUARE FILE Square in cross section. Cut on all sides. Tapered.

SWISS PATTERN FILES Files made to the same shape and cut as the files originated by F. L. Grobet in Switzerland over 150 years ago. Made in cuts from No. 00 to No. 6.

SWISS PRECISION FILES The original Grobet-Swiss files made in hundreds of sizes and shapes and in cuts from No. 00 to No. 8. Made to more exacting measurements and much finer cuts than American Pattern files.

TANG The part of the file that tapers from the shoulder that is intended to be fitted with a handle.

THREE SQUARE FILES Equilaterally triangular in cross section. Cut on all sides with sharp corners. Tapered.

TOOL MAKERS' RIFFLERS Various cross sectional shapes with teeth cut on a small area at each end leaving a long middle portion as a handle. The cut ends are of various designs to meet the needs of tool makers.

UPCUT The second series of teeth cut in double cut files made over the first series of cuts called the overcut. This cut is made of an angle to the overcut.

WARDING FILE A rectangular cross section with teeth cut on all sides up to 4" in length and on 3 sides with one safe edge on files 6" and longer. Tapered width, parallel in thickness.



STANDARD CUT

Most commonly used for general purpose deburring of steel, cast iron and other ferrous materials.



DOUBLE CUT

Basically a standard cut tool, with cuts made on the left hand spiral. The design produces a finer finish on material and reduces the size of the chips and slivers. It gives greater tool control.



BEAR CUT

Designed to substantially cut manufacturing production costs. This design and cut removes more material per hour. Engineered for heavy-duty applications. More durable due to the depth of the teeth. More resistant to chipping. Wider teeth make longer chips, which break up easier, and the profile of the teeth makes them less prone to filling up with chips.



ALUMNA CUT

For use on aluminum, magnesium, soft steel and non-ferrous materials such as hard plastic, rubber and wood. Provides easy chip flow and faster stock removal with little or no clogging.

MAXIMUM RECOMMENDED SPEEDS FOR STANDARD CUT CARBIDE ROTARY FILES

Head Diameter	Table 1*	Table 2*	Head Diameter	Table 1*	Table 2*	Head Diameter	Table 1*	Table 2*
1/16"	50,000	75,000	5/16"	20,000	30,000	5/8"	15,000	23,000
3/32"	40,000	60,000	3/8"	18,000	27,000	3/4"	14,000	21,000
1/8"	35,000	53,000	7/16"	17,000	26,000	7/8"	13,000	20,000
3/16"	25,000	38,000	1/2"	16,000	24,000	1"	12,000	18,000
1/4"	22,000	33,000						

Table 1 - for use in determining maximum recommended speeds for malleable iron, steel welds, cast iron, tool steels, die steels, bronze, brass and aluminum

Table 2 - for use in determining maximum recommended speeds for stainless steel.

IMPORTANT: 6" SHANKS SHOULD BE RUN 20% TO 25% LESS RPM

CYLINDRICAL - Plain end



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SA61	1/16"	1/4"	1-1/2"	3/32"	**32.80902**	**32.80903**	—	—
SA41	1/16"	1/4"	1-1/2"	1/8"	**32.81502**	**32.81503**	—	—
SA62	5/64"	5/16"	1-1/2"	3/32"	**32.810**	**32.811**	—	—
SA63	3/32"	3/8"	1-1/2"	3/32"	**32.814**	**32.815**	—	—
SA42	3/32"	1/2"	1-1/2"	1/8"	**32.832**	**32.833**	—	—
SA43	1/8"	1/2"	1-1/2"	1/8"	**32.835**	**32.836**	—	—
SA11	1/8"	1/2"	2"	1/4"	**32.540**	**32.541**	—	—
SA12	1/8"	5/8"	2"	1/4"	**32.54102**	**32.54103**	—	—
SA13	5/32"	5/8"	2"	1/4"	**32.54110**	**32.54111**	—	—
SA14	3/16"	5/8"	2"	1/4"	**32.543**	**32.544**	—	—
SA51	1/4"	1/2"	2"	1/8"	**32.838**	**32.839**	—	—
SA1	1/4"	5/8"	2"	1/4"	**32.546**	**32.547**	**32.546SY**	**32.95002**
SA1L6	1/4"	5/8"	6"	1/4"	**32.93522**	**32.93523**	—	—
SA1L	1/4"	1"	2"	1/4"	**32.54702**	**32.54703**	—	—
SA2	5/16"	3/4"	2-1/2"	1/4"	**32.549**	**32.550**	—	—
SA3	3/8"	3/4"	2-1/2"	1/4"	**32.552**	**32.553**	**32.552SY**	**32.95011**
SA3L6	3/8"	3/4"	6"	1/4"	**32.93537**	**32.93538**	—	—
SA3L	3/8"	1"	2-3/4"	1/4"	**32.55302**	**32.55303**	—	—
SA3X	3/8"	1-1/2"	3-1/4"	1/4"	**32.55310**	**32.55311**	—	—
SA4	7/16"	1"	2-3/4"	1/4"	**32.55320**	**32.55321**	**32.55320SY**	—
SA5	1/2"	1"	2-3/4"	1/4"	**32.555**	**32.556**	**32.555SY**	**32.95017**
SA5L6	1/2"	1"	6"	1/4"	**32.93557**	**32.93558**	—	—
SA6	5/8"	1"	2-3/4"	1/4"	**32.558**	**32.559**	**32.558SY**	**32.95020**
SA15	3/4"	1/2"	2-1/4"	1/4"	**32.55902**	**32.55903**	—	—
SA16	3/4"	3/4"	2-1/2"	1/4"	**32.561**	**32.562**	—	—
SA7	3/4"	1"	2-3/4"	1/4"	**32.564**	**32.565**	—	**32.95023**
SA8	7/8"	1"	2-3/4"	1/4"	**32.56502**	**32.56503**	—	—
SA9	1"	1"	2-3/4"	1/4"	**32.567**	**32.568**	—	—

CYLINDRICAL - End cut

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SB43	1/8"	9/16"	1-1/2"	1/8"	**32.83902**	**32.83903**	—	—
SB11	1/8"	1/2"	2"	1/4"	**32.573**	**32.574**	—	—
SB12	1/8"	5/8"	2"	1/4"	**32.57402**	**32.57403**	—	—
SB13	5/32"	5/8"	2"	1/4"	**32.57410**	**32.57411**	—	—
SB14	3/16"	5/8"	2"	1/4"	**32.576**	**32.577**	—	—
SB51	1/4"	3/16"	2"	1/8"	**32.83910**	**32.83911**	—	—
SB1	1/4"	5/8"	2"	1/4"	**32.579**	**32.580**	—	—
SB1L	1/4"	1"	2"	1/4"	**32.58002**	**32.58003**	—	—
SB2	5/16"	3/4"	2-1/2"	1/4"	**32.582**	**32.583**	—	—
SB3	3/8"	3/4"	2-1/2"	1/4"	**32.585**	**32.586**	—	—
SB3L	3/8"	1"	2-3/4"	1/4"	**32.58602**	**32.58603**	—	—
SB3X	3/8"	1-1/2"	3-1/4"	1/4"	**32.58611**	**32.58612**	—	—
SB4	7/16"	1"	2-3/4"	1/4"	**32.58621**	**32.58622**	—	—
SB5	1/2"	1"	2-3/4"	1/4"	**32.588**	**32.589**	—	—
SB6	5/8"	1"	2-3/4"	1/4"	**32.591**	**32.592**	—	—
SB15	3/4"	1/2"	2-1/4"	1/4"	**32.59202**	**32.59203**	—	—
SB16	3/4"	3/4"	2-1/2"	1/4"	**32.594**	**32.595**	—	—
SB7	3/4"	1"	2-3/4"	1/4"	**32.597**	**32.598**	—	—
SB8	7/8"	1"	2-3/4"	1/4"	**32.59802**	**32.59803**	—	—
SB9	1"	1"	2-3/4"	1/4"	**32.600**	**32.601**	—	—



CYLINDRICAL - Double End cut

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SBECO	1/8"	—	2"	1/8"	**32.841**	—	—	—

CYLINDRICAL - Radius end

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SC61	3/32"	3/8"	1-1/2"	3/32"	**32.817**	**32.818**	—	—
SC41	3/32"	1/2"	1-1/2"	1/8"	**32.844**	**32.845**	—	—
SC42	1/8"	1/2"	1-1/2"	1/8"	**32.847**	**32.848**	—	—
SC11	1/8"	1/2"	2"	1/4"	**32.606**	**32.607**	—	—
SC12	1/8"	5/8"	2"	1/4"	**32.60702**	**32.60703**	—	—
SC13	5/32"	5/8"	2"	1/4"	**32.60710**	**32.60711**	—	—
SC14	3/16"	5/8"	2"	1/4"	**32.609**	**32.610**	—	—
SC51	1/4"	1/2"	2"	1/8"	**32.850**	**32.851**	—	—
SC1	1/4"	5/8"	2"	1/4"	**32.612**	**32.613**	—	**32.95102**
SC1L6	1/4"	5/8"	6"	1/4"	**32.93722**	**32.93723**	—	—
SC1L	1/4"	1"	2"	1/4"	**32.61302**	**32.61303**	—	—
SC2	5/16"	3/4"	2-1/2"	1/4"	**32.615**	**32.616**	—	—
SC3	3/8"	3/4"	2-1/2"	1/4"	**32.618**	**32.619**	**32.618SY**	**32.95111**
SC3L6	3/8"	3/4"	6"	1/4"	**32.93737**	**32.93738**	—	—
SC3L	3/8"	1"	2-3/4"	1/4"	**32.61902**	**32.61903**	—	—
SC3X	3/8"	1-1/2"	3-1/4"	1/4"	**32.61910**	**32.61911**	—	—
SC4	7/16"	1"	2-3/4"	1/4"	**32.61912**	**32.61913**	**32.61912SY**	—
SC5	1/2"	1"	2-3/4"	1/4"	**32.621**	**32.622**	**32.621SY**	**32.95117**
SC5L6	1/2"	1"	6"	1/4"	**32.93757**	**32.93758**	—	—
SC6	5/8"	1"	2-3/4"	1/4"	**32.624**	**32.625**	**32.624SY**	**32.95120**
SC15	3/4"	1/2"	2-1/4"	1/4"	**32.62502**	**32.62503**	—	—
SC16	3/4"	3/4"	2-1/2"	1/4"	**32.62510**	**32.62511**	—	—
SC7	3/4"	1"	2-3/4"	1/4"	**32.627**	**32.628**	—	**32.95123**
SC9	1"	1"	2-3/4"	1/4"	**32.62802**	**32.62803**	—	—



BALL



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SD41	3/32"	1/8"	1-1/2"	1/8"	32.853	32.854	—	—
SD61	3/32"	1/8"	1-1/2"	3/32"	32.820	32.821	—	—
SD42	1/8"	1/8"	1-1/2"	1/8"	32.856	32.857	—	—
SD11	1/8"	1/8"	2"	1/4"	32.633	32.634	—	—
SD53	3/16"	3/16"	1-11/16"	1/8"	32.858	32.861	—	—
SD14	3/16"	1/4"	2"	1/4"	32.636	32.637	—	—
SD51	1/4"	1/4"	1-3/4"	1/8"	32.859	32.860	—	—
SD1	1/4"	7/32"	2"	1/4"	32.639	32.640	—	32.95305
SD1L6	1/4"	7/32"	6"	1/4"	32.93812	32.93813	—	—
SD2	5/16"	5/16"	2-1/16"	1/4"	32.642	32.644	—	—
SD3	3/8"	5/16"	2-1/16"	1/4"	32.645	32.646	32.645SY	32.95311
SD3L6	3/8"	5/16"	6"	1/4"	32.93822	32.93823	—	—
SD4	7/16"	3/8"	2-1/8"	1/4"	32.64602	32.64603	32.64602SY	—
SD5	1/2"	7/16"	2-3/16"	1/4"	32.648	32.649	32.648SY	32.95317
SD5L6	1/2"	7/16"	6"	1/4"	32.93832	32.93833	—	—
SD6	5/8"	9/16"	2-5/16"	1/4"	32.651	32.652	32.651SY	32.95320
SD7	3/4"	11/16"	2-7/16"	1/4"	32.654	32.655	—	32.95323
SD9	1"	15/16"	2-11/16"	1/4"	32.65502	32.65503	—	—

OVAL



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SE61	3/32"	1/8"	1-1/2"	3/32"	32.86102	32.86103	—	—
SE41	1/8"	7/32"	1-1/2"	1/8"	32.862	32.863	—	—
SE11	3/16"	5/16"	2"	1/4"	32.65902	32.65903	—	—
SE51	1/4"	3/8"	1-7/8"	1/8"	32.865	32.866	—	—
SE1	1/4"	3/8"	2"	1/4"	32.660	32.661	—	—
SE1L6	1/4"	3/8"	6"	1/4"	32.93907	32.93908	—	—
SE3	3/8"	19/32"	2-11/32"	1/4"	32.663	32.664	32.663SY	32.95411
SE3L6	3/8"	19/32"	6"	1/4"	32.93912	32.93913	—	—
SE5	1/2"	7/8"	2-5/8"	1/4"	32.666	32.667	32.666SY	32.95417
SE5L6	1/2"	7/8"	6"	1/4"	32.93917	32.93918	—	—
SE6	5/8"	1"	2-3/4"	1/4"	32.669	32.670	32.669SY	32.95420
SE7	3/4"	1"	2-3/4"	1/4"	32.67002	32.67003	—	32.95423

TREE RADIUS



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SF61	3/32"	1/4"	1-1/2"	3/32"	32.88802	32.88803	—	—
SF41	1/8"	1/4"	1-1/2"	1/8"	32.889	32.890	—	—
SF42	1/8"	1/2"	1-1/2"	1/8"	32.892	32.893	—	—
SF51	1/4"	1/2"	2"	1/8"	32.895	32.896	—	—
SF11	1/4"	1/2"	2"	1/4"	32.70102	32.70103	—	—
SF1	1/4"	5/8"	2"	1/4"	32.702	32.703	—	32.95705
SF1L6	1/4"	5/8"	6"	1/4"	32.94207	32.94208	—	—
SF3	3/8"	3/4"	2-1/2"	1/4"	32.705	32.706	32.705SY	32.95711
SF3L6	3/8"	3/4"	6"	1/4"	32.94212	32.94213	—	—
SF4	7/16"	1"	2-3/4"	1/4"	32.70602	32.70603	32.70602SY	—
SF13	1/2"	3/4"	2-1/2"	1/4"	32.70610	32.70611	32.70610SY	—
SF5	1/2"	1"	2-3/4"	1/4"	32.708	32.709	32.708SY	32.95717
SF5L6	1/2"	1"	6"	1/4"	32.94227	32.94228	—	—
SF6	5/8"	1"	2-3/4"	1/4"	32.711	32.712	32.711SY	32.95720
SF7	3/4"	1"	2-3/4"	1/4"	32.71202	32.71203	—	—
SF14	3/4"	1-1/4"	3"	1/4"	32.714	32.715	—	32.95744
SF15	3/4"	1-1/2"	3-1/4"	1/4"	32.71502	32.71503	—	—

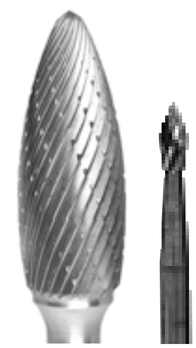
TREE POINTED

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SG61	3/32"	1/4"	1-1/2"	3/32"	**32.87902**	**32.87903**	—	—
SG41	1/8"	1/4"	1-1/2"	1/8"	**32.880**	**32.881**	—	—
SG42	1/8"	5/16"	1-1/2"	1/8"	**32.88102**	**32.88103**	—	—
SG43	1/8"	3/8"	1-1/2"	1/8"	**32.883**	**32.884**	—	—
SG44	1/8"	1/2"	1-1/2"	1/8"	**32.88402**	**32.88403**	—	—
SG51	1/4"	1/2"	2"	1/8"	**32.886**	**32.887**	—	—
SG1	1/4"	5/8"	2"	1/4"	**32.684**	**32.685**	—	—
SG1L6	1/4"	5/8"	6"	1/4"	**32.94102**	**32.94103**	—	—
SG2	5/16"	3/4"	2-1/2"	1/4"	**32.68502**	**32.68503**	—	—
SG3	3/8"	3/4"	2-1/2"	1/4"	**32.687**	**32.688**	**32.687SY**	—
SG3L6	3/8"	3/4"	6"	1/4"	**32.94112**	**32.94113**	—	—
SG13	1/2"	3/4"	2-1/2"	1/4"	**32.690**	**32.691**	**32.690SY**	—
SG5	1/2"	1"	2-3/4"	1/4"	**32.693**	**32.694**	**32.693SY**	—
SG5L6	1/2"	1"	6"	1/4"	**32.94122**	**32.94123**	—	—
SG6	5/8"	1"	2-3/4"	1/4"	**32.696**	**32.697**	**32.696SY**	—
SG7	3/4"	1"	2-3/4"	1/4"	**32.69702**	**32.69703**	—	—
SG15	3/4"	1-1/2"	3-1/4"	1/4"	**32.69710**	**32.69711**	—	—



FLAME

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SH41	1/8"	1/4"	1-1/2"	1/8"	**32.868**	**32.869**	—	—
SH1	1/4"	5/8"	2"	1/4"	**32.673**	**32.674**	—	—
SH2	5/16"	3/4"	2-1/2"	1/4"	**32.675**	**32.676**	—	—
SH2L6	5/16"	3/4"	6"	1/4"	**32.94007**	**32.94008**	—	—
SH5	1/2"	1-1/4"	3"	1/4"	**32.678**	**32.679**	—	—
SH5L6	1/2"	1-1/4"	6"	1/4"	**32.94012**	**32.94013**	—	—
SH6	5/8"	1-7/16"	3-3/16"	1/4"	**32.67902**	**32.67903**	—	—
SH7	3/4"	1-5/8"	3-3/8"	1/4"	**32.67910**	**32.67911**	—	—



DEBURRING 60°

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SJ1	1/4"	3/16"	2"	1/4"	**32.777**	**32.778**	—	—
SJ3	3/8"	5/16"	2-1/16"	1/4"	**32.780**	**32.781**	—	—
SJ5	1/2"	7/16"	2-3/16"	1/4"	**32.783**	**32.784**	—	—
SJ6	5/8"	9/16"	2-5/16"	1/4"	**32.78402**	**32.78403**	—	—
SJ7	3/4"	11/16"	2-7/16"	1/4"	**32.78410**	**32.78411**	—	—
SJ9	1"	15/16"	2-11/16"	1/4"	**32.78420**	**32.78421**	—	—



DEBURRING 90°

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SK1	1/4"	1/8"	2"	1/4"	**32.789**	**32.790**	—	—
SK3	3/8"	3/16"	1-15/16"	1/4"	**32.792**	**32.793**	—	—
SK5	1/2"	1/4"	2"	1/4"	**32.795**	**32.796**	—	—
SK6	5/8"	5/16"	2-1/16"	1/4"	**32.798**	**32.799**	—	—
SK7	3/4"	3/8"	2-1/8"	1/4"	**32.801**	**32.802**	—	—
SK9	1"	1/2"	2-1/4"	1/4"	**32.804**	**32.805**	—	—



DEBURRING - Double end

SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SJ42	1/8"	3/32"	1-1/2"	60°	1/8"	**32.871**	**32.872**	—	—
SK42	1/8"	1/16"	1-1/2"	90°	1/8"	**32.874**	**32.875**	—	—



CONE - Radius nose 14° taper



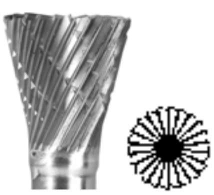
SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SL41	1/8"	3/8"	1-1/2"	1/8", 6°	**32.89702**	**32.89703**	—	—
SL42	1/8"	1/2"	1-1/2"	1/8", 7°	**32.898**	**32.899**	—	—
SL1	1/4"	5/8"	2"	1/4"	**32.720**	**32.721**	—	—
SL1L6	1/4"	5/8"	6"	1/4"	**32.94302**	**32.94303**	—	—
SL2	5/16"	7/8"	2-5/8"	1/4"	**32.723**	**32.724**	—	—
SL3	3/8"	1-1/16"	2-13/16"	1/4"	**32.726**	**32.727**	**32.726SY**	**32.95811**
SL3L6	3/8"	1-1/16"	6"	1/4"	**32.94312**	**32.94313**	—	—
SL4	1/2"	1-1/8"	2-7/8"	1/4"	**32.729**	**32.730**	**32.729SY**	**32.95814**
SL4L6	1/2"	1-1/8"	6"	1/4"	**32.94317**	**32.94318**	—	—
SL5	5/8"	1-3/16"	2-15/16"	1/4"	**32.73002**	**32.73003**	**32.73002SY**	**32.95817**
SL6	5/8"	1-5/16"	3-1/16"	1/4"	**32.732**	**32.733**	**32.732SY**	**32.95820**
SL7	3/4"	1-1/2"	3-1/4"	1/4"	**32.73302**	**32.73303**	—	**32.95823**

CONE



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SM61	3/32"	5/16"	1-1/2"	10°	3/32"	**32.826**	**32.827**	—	—
SM41	1/8"	3/8"	1-1/2"	14°	1/8"	**32.913**	**32.914**	—	—
SM42	1/8"	1/2"	1-1/2"	12°	1/8"	**32.916**	**32.917**	—	—
SM43	1/8"	5/8"	1-1/2"	9°	1/8"	**32.919**	**32.920**	—	—
SM51	1/4"	1/2"	2"	22°	1/8"	**32.910**	**32.911**	—	—
SM1	1/4"	1/2"	2"	22°	1/4"	**32.738**	**32.739**	—	—
SM2	1/4"	3/4"	2"	14°	1/4"	**32.741**	**32.742**	—	—
SM3	1/4"	1"	2"	12°	1/4"	**32.744**	**32.745**	—	—
SM4	3/8"	3/4"	2-1/2"	28°	1/4"	**32.747**	**32.748**	**32.747SY**	—
SM5	1/2"	1"	2-3/4"	28°	1/4"	**32.750**	**32.751**	**32.750SY**	—
SM6	5/8"	1-1/8"	2-7/8"	31°	1/4"	**32.753**	**32.754**	**32.753SY**	—

INVERTED CONE - End cut



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SN1	1/4"	1/4"	2"	10°	1/4"	**32.768**	**32.769**	—	—
SN4	1/2"	1/2"	2-1/2"	14°	1/4"	**32.771**	**32.772**	—	—

INVERTED CONE - Plain end



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SN41	3/32"	1/8"	1-1/2"	10°	1/8"	**32.901**	**32.902**	—	—
SN61	3/32"	1/8"	1-1/2"	10°	3/32"	**32.823**	**32.824**	—	—
SN42	1/8"	1/8"	1-1/2"	14°	1/8"	**32.904**	**32.905**	—	—
SN51	1/4"	1/4"	1-3/4"	10°	1/8"	**32.907**	**32.908**	—	—
SN1	1/4"	1/4"	2"	10°	1/4"	**32.759**	**32.760**	—	—
SN2	3/8"	3/8"	2-1/8"	13°	1/4"	**32.761**	**32.76102**	—	—
SN4	1/2"	1/2"	2-1/2"	14°	1/4"	**32.762**	**32.763**	—	—
SN6	5/8"	3/4"	2-1/2"	18°	1/4"	**32.76302**	**32.76303**	—	—
SN7	3/4"	5/8"	2-5/8"	30°	1/4"	**32.76310**	**32.76311**	—	—

CARBIDE SETS

BUR SETS IN HINGED WOODEN CASES



1/4" SHANK SETS
wood case measures 3-3/16" x 3-3/16" x 3-3/8"

Specially designed Bear Cut removes more material per hour and is engineered for heavy duty applications. 8-piece set includes; SA5, SC5, SE5, SF3, SF5, SG5, SL3, SL4
No. **32.931SY -** Bear Cut set

8-piece sets of most popular shapes and sizes include;
SA5, SC1, SC3, SD3, SE5, SF5, SG1, SK5
No. **32.924 -** Standard Cut set
No. **32.925 -** Double Cut set



5-PC BUR SET IN DURABLE PLASTIC CASES, 1/4" SHANK
Double Cut set; SB3, SC3, SC5, SF3, SF5,
No. **32.950 -** Double Cut set

Bear Cut set; SA5, SC5, SE5, SF5, SL4
No. **32.951SY -** Bear Cut set



1/8" SHANK SETS
wood case measures 3-5/8" x 2- 5/8" x 2-1/8"

12-piece sets of most popular shapes and sizes include; SA43, SA51, SC42, SC51, SD42, SD51, SF51, SG43, SL42, SM51, SN42, SN51,

No. **32.926 -** Standard Cut set
No. **32.929 -** Double Cut set

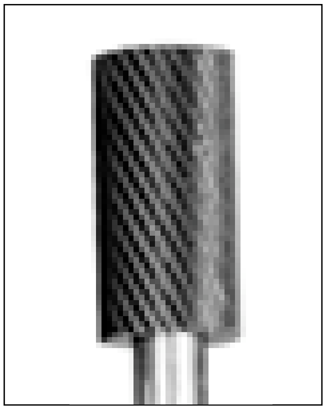


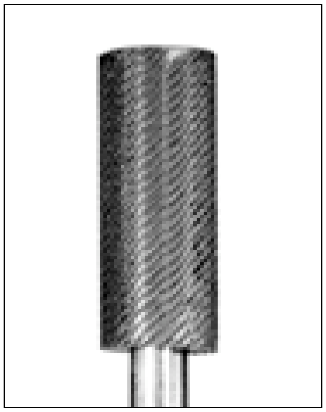
SPECIAL APPLICATION BUR SETS
supplied in a handy plastic container that measures 2-3/4" dia. X 3-3/4" high

8-piece double cut set of popular shapes and sizes on 1/4" shank. Excellent assortment for a variety of uses, including metal grinding, smoothing out welds, enlarging holes or porting heads. Includes: SA5, SA3, SC3, SC1, SD1, SD3, SF3, SF5.
No. **32.932 -** Double Cut set

5-piece Alumna Cut set, for use in applications such as aluminum, copper, brass and softer alloys. This kit contains 5 popular shapes with a 3/8" head diameter on 1/4" shank: SA3, SC3, SE3, SF3, SL3.
No. **32.933 -** Alumna Cut set

HIGH SPEED STEEL BURS





GROUND-FROM-THE-SOLID ROTARY FILES

Ground from blanks of hardened high speed steel, these files have smooth, unbroken flutes. The design is particularly well-suited for filing mild steels and ductile, stringy materials such as aluminum, brass, lead and magnesium. They can also be used on some grades of plastics. Ground cut rotary files perform best at medium speeds in flexible shaft machines and air tools. The teeth have standard helix angles of approximately 30 with C/L.

CHISEL (HAND) CUT ROTARY FILES

The skilled hand crafting required to produce these files sets them apart from the others. Even those files which are machine chiseled must be completed with hand detailing. Teeth of these high speed steel files are staggered in contrast to the smooth flutes of ground-from-the-solid files. This irregular tooth design especially suits the requirements for working on dense, tough materials, such as die steels, steel forgings and other ferrous materials. They are best suited for operation at lower speeds such as in hand flexible shaft machines, drill presses, lathes, etc. Standard chisel cut high speed steel rotary files have 18 teeth per inch.

SCALE OF CUTS FOR HSS, STANDARD CUT GROUND-FROM-THE-SOLID ROTARY FILES

Head Diameter	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1-1/8"
Teeth To The Circumference	10	12	15	18	20	25	25	25	30	30

IMPORTANT NOTE ON OPERATING SPEEDS: Before using any rotary file, be certain to check the maximum recommended speed chart, since speed recommendations vary according to type of file, file diameter and material being removed or finished.

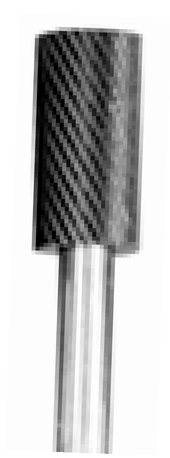
MAXIMUM RECOMMENDED SPEEDS FOR HIGH SPEED STEEL ROTARY FILES USED ON THE FOLLOWING MATERIALS:

	MILD STEEL	CAST IRON	ALUMINUM
Diameter	Maximum Speed (RPM)		
1/8"	4,000	6,000	15,000
1/4"	2,500	3,400	10,000
3/8"	2,000	2,250	8,000
1/2"	1,500	1,750	6,000
5/8"	1,350	1,450	5,000
3/4"	1,200	1,250	4,000
1"	800	1,000	2,500

	BRASS	BRONZE	MAGNESIUM
Diameter	Maximum Speed (RPM)		
1/8"	15,000	15,000	8,000
1/4"	10,000	10,000	7,000
3/8"	8,000	8,000	6,500
1/2"	6,000	6,000	6,000
5/8"	5,000	5,000	5,000
3/4"	4,000	4,000	4,000
1"	2,500	2,500	4,000

NOTE: *Rotary files must be chucked true and to the full capacity of the machine chuck. Also, when using double cut rotary files, reduce speed by approximately 1/3 to 1/2 from that shown for standard cut.*

CYLINDRICAL - Plain end



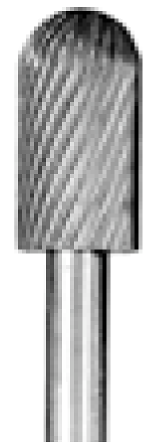
Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	2-1/4"	**33.026**	**33.401**
3/16"	1/2"	2-1/4"	**33.029**	—
1/4"	1"	2-1/4"	**33.032**	**33.407**
5/16"	1"	2-1/4"	**33.035**	—
3/8"	1"	2-1/4"	**33.038**	**33.410**
1/2"	1"	2-1/4"	**33.041**	**33.413**
5/8"	1"	2-1/4"	**33.044**	**33.416**
1/4"	1/2"	2-3/4"	**33.047**	**33.419**
5/16"	1-1/2"	2-3/4"	—	**33.422**
3/8"	1-1/2"	2-3/4"	**33.050**	**33.425**
1/2"	1-1/2"	2-3/4"	**33.053**	**33.428**
3/4"	3/4"	2-1/4"	**33.056**	**33.438**
1"	1"	2-1/4"	**33.059**	**33.441**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	5/8"	1-1/2"	**33.298**	**33.640**
1/4"	1/2"	1-1/2"	**33.301**	**33.643**

CYLINDRICAL - Radius end

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	2-1/4"	**33.065**	**33.444**
1/4"	1"	2-1/4"	**33.071**	**33.447**
5/16"	1"	2-1/4"	**33.074**	—
3/8"	1"	2-1/4"	**33.077**	**33.450**
1/2"	1"	2-1/4"	**33.083**	**33.453**
5/8"	1"	2-1/4"	**33.086**	—
3/4"	1-1/4"	2-1/2"	**33.089**	**33.459**
1/4"	1-1/2"	2-3/4"	**33.092**	**33.462**
3/8"	1-1/2"	2-3/4"	**33.095**	**33.468**
1/2"	1-1/2"	2-3/4"	**33.098**	—

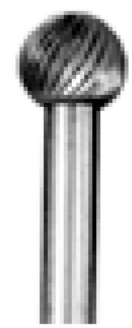
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	5/8"	1-1/2"	**33.304**	**33.646**
1/4"	1/4"	1-1/2"	**33.307**	—



BALL

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/8"	2-1/4"	**33.106**	**33.477**
3/16"	3/16"	2-1/4"	**33.109**	**33.479**
1/4"	1/4"	2-1/4"	**33.112**	**33.482**
5/16"	5/16"	2-1/4"	**33.115**	**33.485**
3/8"	3/8"	2-1/4"	**33.118**	**33.488**
1/2"	1/2"	2-1/4"	**33.121**	**33.491**
5/8"	5/8"	2-1/4"	**33.124**	**33.494**
3/4"	3/4"	2-1/4"	**33.127**	**33.497**
1"	1"	2-3/16"	**33.130**	**33.500**

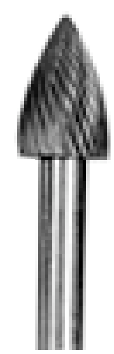
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/4"	1-3/8"	**33.313**	**33.649**
3/8"	3/8"	1-1/2"	**33.317**	**33.652**



TREE POINTED

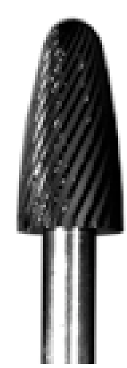
Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	3/4"	2-1/4"	**33.184**	**33.543**
3/8"	3/4"	2-1/4"	**33.187**	**33.546**
1/2"	3/4"	2-1/4"	**33.190**	**33.549**
5/8"	1"	2-1/2"	**33.193**	**33.552**
1/2"	1-1/8"	2-1/2"	**33.196**	**33.555**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	1-1/2"	**33.334**	**33.664**
1/4"	1/2"	1-1/2"	**33.337**	—

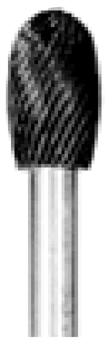


TREE RADIUS

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
¼"	¾"	2¾"	**33.202**	**33.558**
¼"	1½"	2¾"	**33.205**	—
⅜"	¾"	2¼"	**33.208**	**33.564**
½"	1"	2½"	**33.211**	—
½"	1⅛"	2⅜"	—	**33.567**
½"	1⅛"	2⅝"	**33.214**	—
⅝"	1⅛"	2⅝"	**33.217**	—
¾"	1¼"	2½"	**33.220**	—
¾"	1¼"	3¼"	—	**33.570**
1⅛"	2"	3¼"	**33.223**	—



OVAL



Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
3/8"	5/8"	2-1/4"	**33.136**	**33.503**
3/4"	1-1/8"	2-1/2"	**33.142**	**33.509**
1"	1-3/8"	2-5/8"	—	**33.512**
1/4"	1/2"	2-1/4"	**33.148**	**33.516**
1/2"	7/8"	2-1/4"	**33.151**	**33.519**
1/2"	1"	2-1/4"	—	**33.522**
5/8"	1"	2-1/2"	—	**33.525**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	1-1/2"	**33.322**	**33.655**

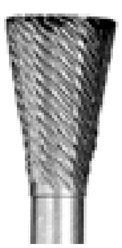
CONE



Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	2-1/4"	24°	**33.229**	**33.576**
1/4"	3/4"	2-1/2"	16°	**33.232**	**33.579**
1/4"	1"	2-1/2"	12°	**33.235**	**33.582**
1/4"	1-1/8"	2-1/2"	11°	**33.238**	**33.585**
5/16"	3/4"	2-1/4"	21°	**33.241**	—
5/16"	1"	2-1/2"	16°	—	**33.591**
5/16"	1"	2-1/2"	15.5°	**33.244**	—
3/8"	5/8"	2-1/4"	30°	—	**33.594**
1/2"	7/8"	2-3/8"	30°	—	**33.600**
1/2"	7/8"	2-9/16"	30°	**33.253**	—

Head Dia. (1/8" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
1/8"	9/16"	1-1/2"	9.5°	**33.346**	**33.673**
1/4"	1/4"	1-3/8"	50°	**33.355**	—
1/4"	1/2"	1-1/2"	24°	—	**33.676**
3/8"	3/8"	1-1/2"	51°	**33.358**	—

INVERTED CONE - Plain end



Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
½"	¾"	2¼"	18°	—	**33.528**
¾"	⅝"	2¼"	34°	—	**33.531**

CONE - Radius nose

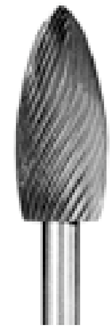


Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
5/8"	13/16"	2-1/4"	36°	—	**33.603**
1"	1-3/8"	2-5/8"	36°	—	**33.606**
5/16"	5/8"	2-3/4"	19°	**33.265**	**33.609**
5/16"	1-1/4"	2-3/4"	8°	**33.268**	**33.612**
3/8"	1-3/4"	3"	7.5°	**33.271**	—
3/8"	1-3/4"	3"	8°	—	**33.615**
5/8"	15/16"	2-11/16"	31.5°	**33.274**	—

FLAME

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1-7/16"	2-3/4"	**33.172**	**33.534**
5/8"	7/8"	2-1/2"	**33.178**	—
3/4"	1-3/4"	3"	—	**33.537**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	1-1/2"	**33.331**	**33.661**



WHEEL - End and underside cut

KNIFE EDGE

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	**33.370**	**33.688**



WHEEL - Plain end

ROUND EDGE

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	**33.364**	**33.682**

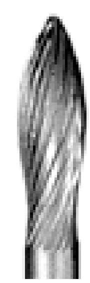
SQUARE EDGE

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	**33.367**	**33.685**



CONVEX-CONCAVE

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1"	2-1/4"	**33.280**	**33.618**
5/16"	1-1/8"	2-1/2"	**33.283**	—

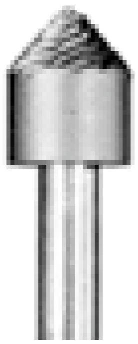


CONCAVE

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
3/4"	15/32"	2-1/4"	**33.286**	**33.624**



INSIDE TUBE DEBURRING - CHISEL CUT



DEBURRING 90°

Head Dia. (1/4" Shank)	Length of Cut	Length Overall	Chisel Cut Standard
1/2"	1/4"	1-13/16"	**33.713**
5/8"	5/16"	2-1/8"	**33.716**
3/4"	3/8"	2"	**33.719**
1"	1/2"	2-1/8"	**33.722**

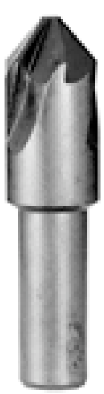
INSIDE & OUTSIDE TUBE DEBURRING GROUND-FROM-THE-SOLID

Grobet's combination inside and outside tube deburring rotary files are adjustable so as to increase or decrease the relative amount of chamfer between inside and outside wall tubing. Standard files make a 45° chamfer on outside wall of tubing and a 30° on the inside. Speed ranges from 50 to 250 RPM, according to size. Tube may be fed to file by hand, but better finish is obtained with rigid guides or support.



Tube Outside Diameter	Tube Inside Diameter	Standard
1/4"	3/16"	**33.749**
3/8"	5/16"	**33.751**
1/2"	7/16"	**33.753**
5/8"	9/16"	**33.755**
3/4"	5/8"	**33.756**
7/8"	3/4"	**33.757**
1"	7/8"	**33.758**

CHATTERLESS COUNTERSINKS



Head Diameter	Overall Length	82° Angle	90° Angle
1/4"	1-1/2"	—	**33.767**
5/16"	1-3/4"	**33.771**	—
3/8"	1-3/4"	**33.776**	**33.777**
1/2"	2"	**33.781**	—
5/8"	2-1/4"	**33.786**	**33.787**

Note: *Countersinks shown have a 82° or 90° angle C/L.*
Countersinks at angles other than these are also available.

HIGH SPEED STEEL SHANK SETS

BUR SETS IN HINGED WOODEN CASES



1/8" SHANK SETS
(wood case measures 3-1/2" x 2-1/2" x 2-1/4")

Assortment of twelve popular shapes and sizes.

No. **33.376 -** Standard Cut set
No. **33.691 -** Chisel Cut set



1/4" SHANK SETS
(wood case measures 3-1/8" x 3-7/16" x 3-1/8")

Assortment of eight popular shapes and sizes.

No. **33.375 -** Standard Cut set
No. **33.690 -** Chisel Cut set

CHATTERLESS COUNTERSINKS SETS

These 6-flute countersinks are made with staggered cutting edges which give a shearing cut that eliminates practically all chatter.



EIGHT COUNTERSINKS
(1/4" diameter to 1" diameter) in a wood box measuring 4-7/8" x 3-1/4" x 4".
No. **33.808** 82° angle

GROBET USA® PNEUMATIC GRINDERS

A durable yet economical choice, offering longer-life and higher free speed (RPM's).
A general purpose tool designed for porting, light weld grinding, and breaking sharp edges.



- *The Micro Grinder comes with 2 collet wrenches and the air line fitting.*
- *The Micro Grinder has a built in silencer for quieter operation.*

No. 34.900 Micro Die Grinder 1/10 HP

RPM	Air Pressure	Air Consumption	Net Weight	Precision Length
56,000	90 PSI	7 CFM	.5 LBS	5.85 in.

Exhaust: Rear
Power: 1/10 H.P.
Bearings: Ultra Precision
Parts: Machined Steel
Throttle: Roll Type for Instant Speed Adjustment

Options:
No. **34.905** 3/32" Collet
No. **34.906** 3 MM Collet
No. **34.907** 1/8" Collet
No. **34.924** Repair Kit
No. **34.922** FNPT Fitting(Female)



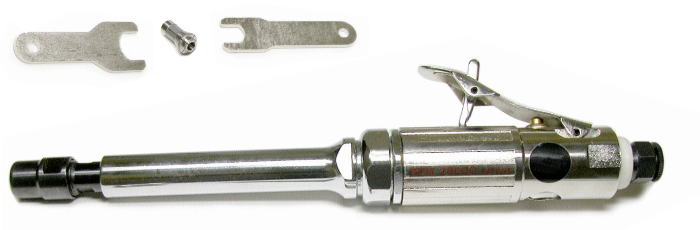
Throttle allows for variable speed

34.901 90º Angle Die Grinder 1/3 HP

RPM	Air Pressure	Air Consumption	Net Weight	Precision Length
20,000	90 PSI	15 CFM	1.1 LBS	6.25 in.

Exhaust: Rear
Power: 1/3 H.P.
Bearings: Ball Bearings
Parts: Machined Steel
Throttle: Roll Type for Instant Speed Adjustment

Options:
No. **34.909** 6mm Collet
No. **34.908** 1/4" Collet
No. **34.910** 1/8" Collet
No. **34.911** 3mm Collet
No. **34.925** Repair Kit
No. **34.923** MNPT Fitting(Male)



Throttle allows for variable speed

34.902 Extended Length Die Grinder 1/3 HP

RPM	Air Pressure	Air Consumption	Net Weight	Precision Length
25,000	90 PSI	15 CFM	1.65 LBS	11.12 in.

Exhaust: Rear
Power: 1/3 H.P.
Bearings: Ball Bearings
Parts: Machined Steel
Throttle: Roll Type for Instant Speed Adjustment

Options:
No. **34.913** 6mm Collet
No. **34.912** 1/4" Collet
No. **34.914** 1/8" Collet
No. **34.915** 3mm Collet
No. **34.926** Repair Kit
No. **34.923** MNPT Fitting(Male)

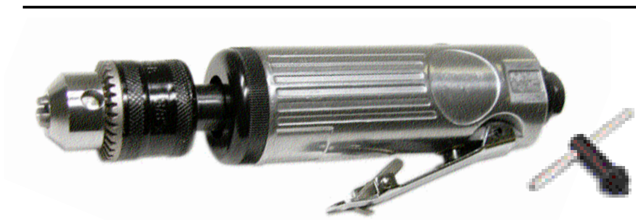


34.903 1/4 inch Die Grinder 1/3 HP

RPM	Air Pressure	Air Consumption	Net Weight	Precision Length
25,000	90 PSI	14 CFM	.85 LBS	6.25 in.

Exhaust: Rear
Power: 1/3 H.P.
Bearings: Ball Bearings
Parts: Machined Steel
Throttle: Roll Type for Instant Speed Adjustment

Options:
No. **34.917** 6mm Collet
No. **34.919** 3mm Collet
No. **34.918** 1/8" Collet
No. **34.916** 1/4" Collet
No. **34.927** Repair Kit
No. **34.923** MNPT Fitting(Male)



- *The 3/8" drill chuck allows for the use of 1.5 - 10mm & 1/16 - 3/8"shanks.*
- *The self-locking throttles allow for partial (adjustable) speed controll .*

34.904 3/8 inch Chuck Air Drill 1/3 HP

RPM	Air Pressure	Air Consumption	Net Weight	Precision Length
20,000	90 PSI	12.5 CFM	1.5 LBS	9.00 in.

Exhaust: Rear
Power: 1/3 H.P.
Bearings: Ball Bearings
Parts: Machined Steel
Throttle: Roll Type for Instant Speed Adjustment

Options:
No. **34.920** Chuck Key
No. **34.921** 3/8" Chuck Set
No. **34.928** Repair Kit
No. **34.923** MNPT Fitting(Male)

TERMS OF BUSINESS

Design and Manufacture

The descriptions and pictured representations in this catalog resemble the actual product as closely as possible. However, because of continuing efforts to improve our merchandise, changes are unavoidable and designs & specifications will sometimes vary. If tolerances or dimensions are critical, please mention this on your order.

Warning: All products in this catalog are to be used according to directions, industry standards and governmental regulations such as the Occupational Safety and Health Act, Federal Hazardous Substance Act and the Environmental Protection Agency regulations.

Those who are not knowledgeable in the proper usage of hazardous materials as well as electrical, high-speed, grinding, and/or high-temperature equipment should NOT purchase these products as non-compliance with safety regulations can be dangerous to health and property.

Keep all products out of the reach of children.

Prices

Prices are subject to change without notice. Price lists are published periodically and the latest price list will be sent upon request. You may also request quotations before shipment by submitting a list of the items you wish to order.

Shipments

In the absence of special instructions on "how to ship" we will use our best judgment in forwarding merchandise. We will comply with your instructions insofar as DOT, ICC and other applicable government regulations permit. Hazardous materials are subject to strict government regulations and additional charges may be incurred.

Returns

All products in this catalog should be free of defects in material and workmanship and perform the work for which they were designed. If, upon examination or first use, a product is found to be defective, contact us with the details. Items which have been abused or used for work for which they were not intended will not be replaced or credited. No merchandise may be returned without written authorization to do so.

General

The products in this catalog were selected for use by technicians and craftsmen working in professional repair and maintenance shops, laboratories, and manufacturing facilities. Some of the products, particularly solutions and compounds, may be considered hazardous if used, stored, or disposed of in an improper manner. These products are intended for professionals and Federal law prohibits the use of some of them in the home. Possession of this catalog does not constitute a right to purchase and identification may be required to ascertain whether a buyer is qualified as a professional.

Thank you for your interest in our catalog.
You will find that the quality of our products, combined with fair pricing, represent outstanding value.